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### The origin and history of the Louisville and Portland Canal.

Leslie S. Wright 1913-1997

*University of Louisville*

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University of Louisville

THE ORIGIN AND HISTORY OF THE LOUISVILLE  
AND PORTLAND CANAL

A Dissertation

Submitted to the Faculty

Of the Graduate School of the University of Louisville

In Partial Fulfillment of the

Requirements for the Degree

Of Master of Arts

Department of History

By

Leslie S. Wright

1939

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**THE ORIGIN AND HISTORY OF THE LOUISVILLE  
AND PORTLAND CANAL**

50877



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## CHAPTER I

Earliest attempts to build a canal  
at the falls of the Ohio, and the  
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## CHAPTER I

Earliest attempts to build a canal at the falls of the Ohio, and the necessity for so doing.

Near Louisville, the Ohio River falls from twenty-seven to twenty-eight feet within a distance of two miles. These rapids early became known as the "Falls of the Ohio." They impeded traffic so much that boats could safely descend only during periods of high water while it was possible to make the ascent during even shorter periods of the year and at greater peril.

The promoters of Western and Southern trade realized that they must circumscribe the series of rapids, or falls, at Louisville, in order to open the Ohio to the free circulation of commerce. Underlying the entire width of the river at the Falls City is an irregular mass of limestone, forming a series of rapids, pools and falls. Although open channel work was commenced more than half a century earlier in the northern or Indiana channel, the radical and permanent measures taken to open the navigation of the Ohio consisted in the building of the canal around the obstructions at the Falls City.

In the hope of making the river navigable at all times by means of such a canal, the Legislature of Kentucky incorporated the Ohio Canal Company in 1804. The act designated seventeen cities of the state in which books were to be opened for subscriptions for stock, and named the men who were to be in charge of the sales. The capital stock was to be \$50,000, divided into 1,000 shares of \$50 each, though if this stock should be insufficient, the directors might from time to time increase the number of shares. The works and canal with all their profit should be forever exempt from any tax or assessment. The subscribers were to receive returns on their investment by way of tolls, which were levied according to the size of the boat. Those not exceeding fourteen feet in width and forty-five feet in length were to pay \$4.00; those not over fourteen feet wide and sixty feet long, \$5.00, etc. Boats loaded with coal, lime, iron or other ore, or household furniture were to pay not more than three-fourths of the regular tolls. The canal had to be capable of navigation, except in dry seasons, for vessels and rafts, drawing four feet of water, at the least. It had to be begun within three years and

completed by January 1, 1812. A lottery was authorized whereby the company might raise as much as \$15,000 for the construction of the canal.<sup>1</sup>

The preamble of the law of 1804 stated that there were many people who wished to invest large sums in the canal, but only a portion of the money was subscribed.<sup>2</sup> It is also true, as was brought out in the Legislature, that the act was "defective in many of its important provisions."<sup>3</sup> In an attempt to correct these defects and render encouragement to the enterprise, the Legislature, in 1805, modified the act of the previous year. The capital stock was now to consist of 10,000 shares at \$50 each. The State of Kentucky was to purchase 1,000 shares and reserve for her disposition 1,000 other shares. The United States might subscribe for shares to the par value of \$60,000; Pennsylvania and Virginia, each, to the value of \$30,000; Maryland, New York, and Ohio, each, to the value of \$20,000, these States being most directly concerned with the improved navigation of the Ohio.

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1. Littell, Wm., Statute Law of Kentucky, V.III, pp. 221-234.

2. Collins, Lewis, History of Kentucky, V. I, p. 551.

3. Kentucky Statutes, 1805, p. 1.

Again the canal and works were to be tax exempt. It had to be navigable for vessels drawing not over three feet in time of low water, and must be twenty-four feet wide at the bottom. A lottery was again authorized with the privilege of raising a sum not exceeding \$30,000. Work had to be begun within three years and completed by January 1, 1815. Tolls were levied according to tonnage for ships and sea vessels, and according to size for other boats.<sup>1</sup>

After the act passed by the Legislature of Kentucky, to incorporate the Ohio Canal Company, some competition arose, and the preeminence of the opposite side of the river as a proposed site was urged. In reply to this, Mr. Jared Brooks, an engineer employed by the Managers of the Canal Company, says in his report:

It has been idly reported by some, who are unfriendly to the interests of the Ohio Canal Company, that the ground on the side of Kentucky is too low----was that even the case, agreeable to the section, there is higher ground immediately on each side of it, and any height may be chosen to fifty feet, without varying materially the course or distance. At the foot of the canal, the bank of the river is upwards of forty feet high from low water, and immediately on each side much higher. That part of

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1. Kentucky Statutes, 1805, pp. 1-18



Shippingport towards the proposed canal, is fifty feet high. The bank is uniformly of strong clay, which forms a bold and permanent shore, and which is washed by the main channel of the Ohio: so that boats and vessels may lay along side, and unlade into the mills, warehouses and manufactories when established, and receive lading therefrom, with the greatest imaginable convenience.

It cannot be denied, that approach to the head of a canal on the south side, will be more safe and easy, than on the north side----that the length and depth will be less, by more than one-third----that the approach to the foot will be more easy, by the difference of ascending a considerable distance, and crossing the Ohio in a rapid current----and that it will answer every desired purpose when completed, more effectually, than a canal on the north side can be possibly made to do.

In fact nature has arranged the ground so perfectly appropriate for the grand purpose of a canal on the south side, that considering the facility with which it may be effected, and the immense advantage to the whole western country, of the water works that may be thereto applied, it may be acknowledged, that she has made ample amends, for the trouble caused by the obstructions thrown in the way of navigation at the rapids.

Should any be disposed to doubt the accuracy of so favorable a description of this ground, the shafts are secured, and left open for the inspection of those who may please to examine, during which time the face of the ground will show itself.

Previously to my applying instruments, to ascertain precisely the condition of this ground, I traversed and examined it thoroughly on both sides of the Ohio, and used every endeavour to discover some ground for reports in favor of the north side; but the great length and forbidding aspect of the country, through which a canal should

necessarily be carried, and the danger and difficulty of approach with boats, to the places where the head and foot of a canal should be, fully evinced to me of (sic) the utter impracticability of effecting it, until many years had elapsed, and brought into existence far more, and greater encouragement for public enterprise, than are at present connected with that point: even admitting there to be no other more practicable route for a canal. So many powerful obstacles, to the undertaking to complete a canal navigation on the north side, present themselves to the mind in rapid succession, that they appear insurmountable, and baffle all correct calculations of the expense of money and time necessary to the undertaking,----therefore, to the preeminence of the side of Kentucky, all competition must yield,<sup>1</sup> however mighty may be the struggle of speculation.

The contemplated Company of 1805 was slow in organizing, and very little headway was made for some time in doing anything definite. The project was "rather stupendous," and naturally caused some hesitancy. The Associates, therefore, memorialized Congress on the subject, asking for aid. The committee of the Senate, to whom the memorials were referred, reported that all its members had personally visited the site, that they believed in the practicability of the undertaking, that they were mindful "of its vast benefit and importance to our whole western country, especially to that part of it which is connected with the western waters, and that it must

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1. Proceedings of the Managers of the Ohio Canal Company, 1805, p.6.

necessarily enhance the value, and greatly increase the sale of public lands."<sup>1</sup> They therefore, had no hesitancy in recommending to Congress the granting of either of the terms asked for; but until the company was fully organized, they believed it unwise "to offer any specific proposition on the subject."

The committee of the United States House of Representatives to whom was referred the memorial of the Kentucky Legislature made its report on March 19, 1806. It declared in part that,

Of the immense importance of the proposed canal no one can doubt for a moment who has considered the vast extent of fertile territory which is watered by the Ohio and its tributary streams, and the incalculable amount of produce which must, of course, find its way to market by descending that river and encountering the dangers and difficulties of passing its rapids. But, besides the general advantage which would result from the completion of the proposed canal, it is, in the opinion of the committee, particularly interesting to the United States, inasmuch as it would greatly enhance the value of the public lands northwest of the Ohio. There can be but little doubt, but that by the additional value it would give to the public lands, the United States would be more than remunerated for the aid which the Legislature of Kentucky have solicited.<sup>2</sup>

The report further stated that the committee would not hesitate to recommend a subscription of shares

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1. American State Papers, V.XX, Part I, p. 419.

2. Ibid., pp. 453-454.

if they believed the state of public finances was such as to justify it. But the revenue of the United States was already pledged to purposes, though not more useful, yet more urgent. Hence the aid sought was denied.

The committee of the United States Senate to whom was referred the Kentucky documents on the canal, handed in its report on January 24, 1807. It admitted that

the national importance of the canal is undeniable. The immense country of the Ohio and its waters above the rapids, in seeking a market for its surplus products, has to encounter the obstruction in the navigation of that stream. This obstruction, never entirely free from danger, is such as to absolutely preclude the passage of vessels for several months in the year in their descent, and, when laden, for the whole year in the ascent of the river. The rapidity of the current (which averages at the rate of from ten to eleven miles through the falls), leaves no alternative for a safe voyage up as well as down the river but in a canal.<sup>1</sup>

For the next few years, things were at more or less of a standstill except for the fact that the necessity of a canal was becoming more apparent as the increasing river trade found itself faced with an ever present barrier at the falls of the Ohio.

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1. American State Papers, V.XX, Part I, p. 479.

In January, 1818, the Legislature of Kentucky created the Kentucky-Ohio Canal Company, with a capital stock of \$600,000, divided into 6000 shares of \$100 each, 2,500 of which were reserved, 500 each for Kentucky, Ohio, Pennsylvania, Virginia and the Federal Government. The Directors were authorized to do as they thought best to obtain subscriptions. The steamboat first made its appearance on the Ohio in 1811, making a deeper canal necessary, so the act provided for a width of thirty feet at the bottom, and a depth of four and a half feet, "sufficient to carry through the whole distance.....any boat or craft not drawing more than four feet of water." A change was made in the tolls. A loaded flat boat had to pay ten dollars and an empty one six. Steamboats, barges and keel boats were to be charged \$1.50 per ton if loaded, and half that per ton if empty. Partially loaded boats were to pay in proportion, and the several rates were to be doubled for vessels ascending the river. To induce capital to enter into this undertaking, the law provided that if the dividends were less than twelve and a half per cent after two years of canal operation, the directors might raise the tolls, and if over eighteen

per cent, the Legislature reserved the right to reduce them so that the specified income should not be exceeded. This act did not provide for tax exemption.<sup>1</sup>

Two more years elapsed and nothing was accomplished.<sup>2</sup> The amended act of 1820 authorized the company to organize when \$100,000 of stock had been subscribed, and reserved stock for various states and the United States, and again contained the provisions relative to dividends,<sup>3</sup> but the public spirit was too low or capital too insufficient or too sensitive.<sup>4</sup> On December 1, 1824, Governor Desha presented his annual message to the Legislature, in which he urged the construction of internal improvements. Kentucky, because of her inland position, must remain an exporting state, and any impediment in her path to the ocean must necessarily obstruct her progress to wealth and power. The Governor pointed to the works of other states and urged that Kentucky construct her own internal improvements. Not all could be undertaken at once, so he preferred that the canal be pushed through, and that the profits arising from it be used to construct other means of

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1. Kentucky Statutes, 1817-1818, pp. 419-425.

2. Collins, Lewis, op. cit., V.I, p. 552

3. Kentucky Statutes, 1819-1820, pp. 911-914.

4. Collins, Lewis, op. cit., V.I, p. 552.

transportation. It was customary then to collect tolls from turnpikes as well as from canals, so the Governor contended that when the whole system of improvements should "be completed, the profits, it is believed, would nearly or entirely relieve the people from the burthen of taxation, and not only support the government, but also build up and maintain many liberal institutions."<sup>1</sup>

Other states were interested in this canal. Governor Morrow of Ohio sent to Desha an account of the action of the Legislature of his state and a series of documents relative to the canal. David S. Bates, a civil engineer of Ohio, had estimated that a canal forty-four feet wide at the bottom and fifty-six feet wide at the top and four feet at lowest water, could be constructed on the Kentucky side at a cost of \$306,014.68, and on the Indiana side for \$533,048.<sup>2</sup>

The most clearly expressed reasons for a canal were given by Alfred Kelly, Acting Commissioner of the Lake Erie and Ohio Canal:

It may be assumed as a fact, that more damage is annually sustained by the country

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1. Senate Journal (Kentucky), 1824, pp. 9-10.
  2. Ibid., pp. 193-198.

situated on the Ohio, and its branches above the Falls, in consequence of that obstruction, than the whole amount required to provide a complete and permanent remedy for the evil. The actual expense incurred in the transportation of property around the Falls, forms but a small item in this account. The damage sustained in consequence of the delays occasioned by this obstruction, in conveying to market the surplus products of the upper country, is one of much greater magnitude. The market at New Orleans is so fluctuating that the delay of a few days often occasions a serious diminution in the price obtained for a cargo of provisions. The climate and situation are such, that the investment of a large surplus capital in that place applicable to the exigencies of commerce, can never be reasonably expected. The market is therefore liable to be overstocked and a regular demand for a time destroyed. Provisions, if long exposed on their journey down the river, or in the warehouses at New Orleans, to the heat and moisture of that climate, are subject to be damaged and consequently diminished in value, and injured in their general reputation in foreign markets.

Obstruction of the "Falls," argued Kelly, prevents goods being placed on the New Orleans market when the prices are highest. When the "Falls can be descended with safety, a vast amount of property is thrown at once into a market which....is limited in extent and fluctuating in price. Although the average price of flour in New Orleans, is 25 or 30 per cent less than in the sea ports of the Atlantic states, yet it frequently occurs that New Orleans is supplied



with that article for home consumption from those very ports." This illustrates the inequality of price in the market.

To further prove the need of a canal, Mr. Kelly wrote:

Much the largest proportion (of the surplus of the upper country) still descends the Ohio and Mississippi in flat boats, although navigated by a large amount of steamboat tonnage. This is owing in a great measure to the obstruction of the Falls to steamboat navigation. This rapid can be passed by steamboats, especially in ascending, during a small part of the year. Provisions from above the Falls are on an average fifteen days longer in reaching their destination, "and much more subject to being injured by exposure to the weather and other accidents, when transported in flat boats, than when shipped in steam boats." On this account many persons prefer sending their flour, pork and other provisions to market on board of steamboats, even at the present prices of freight charged by these boats, which on flour is now about one dollar per barrel from Cincinnati to New Orleans.

Should the canal be constructed, it was believed that freight on flour would be reduced immediately to fifty cents per barrel, which "effect would be the result of the more constant employment obtained by those boats, the greater safety and less delay in navigating the river, as well as from the reduction in the actual expense now incurred in passing the Falls and carrying

the cargo across the portage at that place." Kelly maintained that flour could be transported best by steamboats. To strengthen his claim he declared that

300,000 barrels annually descend the Falls, which estimate is probably below the truth; the sum of 150,000 dollars on the freight of this article alone, would annually be saved to the upper country. But it is believed that the loss sustained by delay, actual loss and damage received by the property, its bad reputation on the market, the extra expense of transportation, and the sacrifice necessarily made in an overstocked market, in consequence of the obstruction at the Falls and the method of conveying property which it induces, is altogether equal to one dollar on each barrel of flour.

Flour constituted about one-fourth of the value of the products of the upper country which descended the Falls, according to Kelly, so it was reasonable to estimate "at least an equal amount of loss on all the other articles, which together form a sum three times as great." According to Commissioner Kelly, about five thousand flatboats were supposed to have descended the Mississippi and arrived at New Orleans annually. Of these boats he estimated that more than three thousand annually descended the Falls of the Ohio. Although the records of the company for the first ten years after the opening of the canal show

that in only one year did the number of flat and keel boats combined, going through the canal, total as high as 710, nevertheless, Mr. Kelly's estimate seems reasonable when considered in the light of the fact that during at least three or four months of the year the water was high enough to permit all types of boats to go over the Falls, and that even during extremely low water, many flatboats could safely navigate the rapids in descending the river. From the construction of these boats, they could never be used in ascending navigation. So they were sold at a loss of \$80 each, on the average, which made a loss by the upper country of \$240,000 a year. Moreover, it required a larger number of hands on flatboats than on steam boats in proportion to the amount of freight. These hands were obliged to return by steamboat, being unemployed on the home trip. This entailed expense:

The damage sustained by property conveyed on board these badly constructed vessels, the loss and risk incurred, and the exposure of health and life, occasioned by this method of transportation, together with the bad appearance and low reputation of provisions, must all be taken into account when forming an opinion of the relative advantages attending the two methods of conveyance.<sup>1</sup>

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1. Senate Journal (Kentucky), 1824, pp. 199-201.

Thus we see that the first twenty-five years of the nineteenth century were taken up with efforts which although not crowned with success, were nevertheless instrumental in securing a canal around the "Falls of the Ohio." It remained for the second quarter of the century to see the work actually begun and completed.

## CHAPTER II

From the Incorporation of the Louisville and Portland Canal Company, and the commencement of work in 1826, to January 1, 1842, when operations were commenced under the amended charter of 1842.

## CHAPTER II

From the Incorporation of the Louisville and Portland Canal Company, and the commencement of work in 1826, to January 1, 1842, when operations were commenced under the amended charter of 1842.

By the time the first quarter of the nineteenth century had come to a close, the public demand for a canal was urgent, so by an act approved January 12, 1825, "Nicholas Berthoud, others, and James Guthrie, with their associates," were incorporated by the legislature of Kentucky as "The Louisville and Portland Canal Company"; they and their successors were to have perpetual succession. The capital stock of the company was declared to be \$600,000, which was divided into 6,000 shares of \$100 each. The company thus created was to construct canal navigation around the falls of the Ohio, with suitable locks, docks, and basins, within the State of Kentucky. A president and four directors of the company were to be elected annually; the president and two of the directors to constitute a quorum. The rates of toll authorized for the passage of vessels, etc., through the canal, were: on steam and keel-boats, twenty cents per ton; on each flat boat, four dollars for every

sixty feet length, not exceeding twenty feet width; payable in gold or silver coin. It was made obligatory upon the company to keep a true account of costs and expenditures, and annually to declare and pay dividends. They were required to make an annual report to the legislature of Kentucky.

A sliding scale of tolls was authorized, by which the profits to be divided should be kept up to at least twelve and one-half per cent "on the capital expended," but in no event should exceed eighteen per cent.

Other usual and necessary powers were conferred upon the company, and the canal was to be completed in three years.

A sectional spirit was manifested in the passage of this act. It passed the Senate on July 11, by a vote of 25 to 7, but every one of the opposing members represented counties lying in the southeastern part of the state, which would benefit the least by the canal.<sup>1</sup>

An attempt was made to include a rider to the bill, to wit:

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1. Senate Journal (Kentucky), 1824-25, p. 432.

Be it further enacted, That the legislature hereby retain the right of purchasing said canal, by paying the cost thereof, together with ten per centum per annum thereon until paid: Provided, the election of the Commonwealth to purchase said canal, be made within two years from and after the passage of this act.<sup>1</sup>

However, this measure was defeated by a vote of 26 to 6.

In his annual message to the legislature, in November, 1825, Governor Desha said that,

An official notification has been received by me from the President of the Louisville and Portland Canal Company, by which it appears that the whole capital stock of that company has been subscribed for, and that such measures have been taken as will ensure the completion of the canal within the time limited in the charter. It may therefore be fairly presumed, that this important work, so long desired by the citizens of our own and other states, will be achieved by the company incorporated at the last session of the General Assembly.<sup>2</sup>

Although the law incorporating the canal company did not reserve any stock for the United States, yet an investment was sought from that quarter. In April, 1826, the United States Senate had under discussion a bill providing that the United States

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1. Senate Journal (Kentucky), 1824-25, p. 432.

2. Ibid., 1825, p. 16.



purchase 1,000 shares of stock so long as the stock should not be over \$100 per share. Johnson and Rowan of Kentucky, and Ruggles of Ohio argued for the measure on the ground that it was an opportunity for the United States to invest money with benefit to the Treasury, holding that it was believed to be the best investment in the country. Chandler of Maine and Van Buren of New York opposed the bill on principle. It passed the upper house by a vote of 22 to 15. Hugh L. White cast the only negative vote from the West. This bill passed the House and was approved by President Adams on May 13, 1826.

Governor Desha again spoke of the canal in his annual message to the legislature in December, 1826, when he said:

It must be a subject of perpetual regret to every patriotic mind that the state did not, with her own resources, undertake the construction of the canal at Louisville. It would have been an imperishable fund; a source of revenue as lasting as the Ohio river itself, which would have enabled the government to accomplish the most extensive and useful plans, without increasing the burdens of the people.<sup>1</sup>

The second annual report of the canal company

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1. Senate Journal (Kentucky), 1826, p. 14.

to the legislature, for the year 1826, made mention of the fact that Congress had authorized a subscription of stock. The certificate was issued, and the several installments paid.

The first installment of \$10 on all shares was called for on December 26, 1825, payable on the fifteenth of March following. On the fourth of April the second installment of \$10 on each share was called for, payable on the twentieth of June; and on the twelfth of August the third installment was called for of the same amount, payable on the first of November, and notice was then given that all shares, on which this, with all previous installments, should not be paid on that day, would be forfeited to the company.

The amount received on the stock is as follows, viz:

On 1,630 shares, which under the foregoing notice have been forfeited to the company---one dollar only according to the terms of the original subscription having been paid on each	
is . . . . .	\$ 1,630.00
Ten shares on which twenty dollars had been paid, belonging to the estate of a deceased person, on which administration had not been taken in time to make the payment of the third installment. .	200.00
4,360 shares on which thirty dollars have been paid on each, being the full amount of the installments called. . .	130,800.00
6,000 shares . . . . .	<u>\$132,630.00</u>

By the Treasurer's account, it will be seen that he has paid the orders of the board, amounting to \$84,615.14, and there is now in deposit in the Louisville branch of the United States Bank, to the credit of the Louisville and Portland Canal Company, the sum of \$48,014.86, which makes a total of \$132,630.00, and balances with the above amount taken in for stock.<sup>1</sup>

The board took no steps to dispose of the 1,630 shares of forfeited stock, deeming the amount of stock still out, when fully paid up, as sufficient to complete the canal.

The contractors were prevented from beginning work in March, 1826, due to an unusually large freshet. On the receding of the water they commenced the excavation of the earth, but with a force too small to be satisfactory to the board. By the last of September, however, the force amounted to one thousand and sixty-two men, from which it decreased by December 30, to six hundred and ten men.

"Notwithstanding the difficulties that the contractors labored under in procuring men," about

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1. Senate Journal (Kentucky), 1826, pp. 204-206.  
(The annual reports of the President and Directors of the Louisville and Portland Canal Company are found in the Senate Journal for each year, and will henceforth be noted as above.)

one-sixth of the originally estimated work was completed.

Water lime of the best kind for cement was found in the lower lockpit, forming one of the strata of rock excavated.

As a general result the board stated that, "no material difficulty or obstacle has presented itself, and an abundant supply of materials are, and can be easily obtained----the men employed on this canal have enjoyed as good health, as any equal number of laborers in any part of the Union----and we are assured by the contractors, that if the approaching season should be favorable, the work will be completed within the time limited in the contract."<sup>1</sup>

The report of the canal company for the year 1827 stated, in addition to listing the various receipts and disbursements, that the three installments on the stock of the company called for during the year were punctually paid. The salary paid to Chief Engineer Bates had been increased by \$1,000, making it total \$2,800 per year. Mr. Edward Shippen still held the office of President of the Board of the Company, having been elected thereto under the original charter.

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1. Senate Journal (Kentucky), 1826, p. 206.

Several alterations suggested by the engineer in the original plans, made it possible that a larger sum would be required for the completion of the work than was previously expected, hence the board determined to dispose of the forfeited shares of stock, when they should be applied for. Such application was made, and 300 shares were sold, making the total number disposed of 4,670, and leaving 1,330 in the hands of the company.

Unprecedented weather conditions, plus a difficulty in securing labor prevented the work approaching its final termination in the degree anticipated in the last annual report. However, the contractors assured the board that such measures had been adopted as would enable them to complete the work during the next season, unless prevented by some unforeseen misfortune.

In order to enable the stockholders to form an estimate of the present and probable future importance of the canal, the following abstract was attached to the annual report, showing the arrivals of steam boats at Shippingport, with the amount of their tonnage, during the past three years, exhibiting

an increase of the commerce of the Ohio, equal,  
if not superior to the most sanguine calculations that  
were made previous to the commencement of the canal.

"Abstract of arrivals at Shippingport from  
below, during the year 1827."<sup>1</sup>

<u>Arrived from</u>	<u>Steam Boats</u>	<u>Tonnage</u>	<u>Trips</u>	<u>Total Tonnage</u>
New Orleans	39	8,585	122	31,989
Nashville	16	1,847	33	3,518
Florence	8	740	25	2,310
St. Louis	14	1,880	69	8,740
Trinity	3	297	13	1,047
Terre Haute	3	140	4	170
Franklin, Mo.	1	225	1	225
			<u>267</u>	<u>47,999</u>
Arrivals 1826	51	9,388	182	28,914
Arrivals 1825	42	7,484	140	24,964

In view of the alterations suggested by the  
chief engineer, and the fact that private capital was  
not flowing into the canal enterprise as rapidly as  
had been expected, in January, 1829, Rowan of Kentucky  
was urging the United States Senate to take more stock,  
claiming that the work could not be done without the  
aid of the Government.<sup>2</sup> The stock went below par and  
many shares were forfeited. The canal was only about  
two and one-half miles in length, but it had to be cut  
through solid rock. The work was two-thirds done.

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1. Senate Journal (Kentucky), 1827, p. 187.

2. Ibid., 1829, p. 134.

The purchase of stock was not a question of principle with Rowan, but one of expediency. John Branch of North Carolina asked that the bill be laid over until the question of the distribution of public money had been settled, condemning this bill as purely local.<sup>1</sup> To this proposal, Johnson of Kentucky replied that the canal was of interest to the whole Western country, that is, to four million people. As to the distribution of Federal money, this was the only legitimate object for which it could be expended in the West. Johnson of Louisiana urged immediate passage to prevent obstruction to the project that would soon occur due to the rise of water. The measure passed the Senate twenty-four to eighteen, with Hugh L. White of Tennessee again casting the only dissenting vote of the West.<sup>2</sup> This bill was approved March 2, 1829, just before the close of the Adams' Administration. It provided that the United States purchase not over 1,350 shares at a price not over par, from any stock which might have been forfeited to the company and not again disposed of.<sup>3</sup>

The legislature of Kentucky, on December 12,

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1. The U.S. Treasury was showing a surplus each year.
  2. Register of Debates in Congress, Vol.V, pp. 47-49.
  3. Ibid., Appendix, p. 65.

1829, authorized an increase of capital stock from \$600,000 to \$700,000,<sup>1</sup> and exactly two years later gave the company blanket authority to extend the capitalization to such an amount as would be sufficient to pay all the costs of constructing the canal.<sup>2</sup>

The canal was completed and opened to traffic, and the first boat passed through December 22, 1830. As originally constructed, the canal was 1.9 miles long, 64 feet wide, and had at its lower end a three flight lock with a total lift of 25 feet. Each chamber was 198 feet long between mitre posts, with available length of 185 feet, a width of fifty feet, and a lift of eight and two-thirds feet. The total cost of the work, including the purchase of land, was \$1,019,277.09.

In 1830, when the canal was completed, its dimensions were thought to be sufficient for all time, but gradually the size and model of steam boats were so changed that in 1852 only fifty-seven per cent of the craft in use on the western waters could pass through the locks.<sup>3</sup>

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1. Kentucky Statutes, 1829-1830, p. 10

2. Ibid., 1831, p. 95.

3. Report of the Chief of Engineers, U.S. Army, 1878, Appendix T, p. 777.



After the opening of the canal, a quantity of mud was found to be deposited in the lower lock. The engineer believed it would be removed by the current passing over it. However, he proved to be mistaken, the obstruction temporarily decreasing by two-thirds the number of boats passing through the canal.

Several imperfections were found in the canal work during its first year open to traffic, which had to be corrected. Excavated rock was placed on the slope wall as an economical arrangement, but proved to be rather a false economy when the action of the frost during the winter precipitated the stones into the canal, causing much obstruction to the passage of large boats.

It was found necessary during the first year, to widen the entrance to the canal, to avoid the danger of the swift current.

During the first thirteen months after its completion, the canal was open to traffic 183 days. In that time 827 boats, whose tonnage amounted to 76,323 tons, passed through the canal, and from the number of arrivals and departures of boats above and

below the falls, the directors estimated that since the obstructions had been removed, the number of boats that would pass the canal in each year would be quadruple that of the past; and that upwards of 300,000 tons would pass the canal annually.<sup>1</sup>

An idea of the dissatisfaction with the canal which came from some sources can be seen in the following extract in which it is pointed out by the U. S. Army engineer, that the Government was unjustly profiteering from a natural handicap to commerce, which it should have been exerting every effort to remove.

In 1826, the Government for the first time in its history, became a stockholder in a private corporation chartered by a State, and that too, in one whose object was to overcome obstructions to navigation in a national highway.

In a few years after the canal was opened, many complaints were raised against it. It was urged as an objection, that it was a monopoly granted to private individuals, in the construction and control of a work which was directly connected with, and, in effect, part of a great "national highway"; that the tolls levied were such as to impose a heavy tax on western commerce, which ought not to be at the mercy of private corporations or individuals.

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1. Senate Journal (Kentucky), 1833, pp. 248-250.

The total amount of tolls collected up to January 1, 1842, or in eleven years, was greater than the original cost of the work.<sup>1</sup>

The investment of the Government in the stock of the canal company proved to be quite an asset to the Treasury. In 1830 the United States government was a stockholder to the amount of 2,335 shares, costing \$233,500. In 1831 the Government received 567 shares more in lieu of dividends. Between 1831 and 1842 it received \$257,788 in cash from the dividends declared by the company; so that at the end of twelve years the Government received \$24,278 in cash and 567 shares in stock more than it invested in the canal, and was still the owner of 2,902 shares in the canal, valued at \$290,200; thus receiving \$547,978 for its original investment in the canal.<sup>2</sup>

According to the eighth annual report of the canal company, the winter and spring of 1832 were without parallel in the history of the western country. Navigation was closed by ice for an unusual period, which was followed by repeated floods, one of which was "more than two feet above any flood of which there was

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1. Report of the Chief of Engineers, 1882, Appendix X, p. 1883.
  2. Report of the Chief of Engineers, 1868, Appendix II, p. 529.

any tradition."

After the water receded, many repairs were made and new machinery added. After re-opening for navigation, the receipt of tolls amounted to about \$1000 per week, and at a time when the river was low, so that only small steam boats and flats could navigate it.

The Directors were of the opinion that the stock would soon yield a fair dividend, which would be progressively increasing, as the commerce of the Ohio had quadrupled since the canal was commenced. The resources of the immense western country were constantly developing new sources of internal trade, which were annually assuming more importance. This canal afforded the only safe method of passing the falls of the Ohio, and it must be used.<sup>1</sup>

The company continued to issue stock to complete the canal and to improve it for a number of years, acting in compliance with the act of the Legislature of 1831. The first dividend was issued on June 3, 1833, which amounted to \$30 per share on 4,665 shares, and to \$20 per share on 1,335 shares

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1. Senate Journal (Kentucky), 1833, pp. 251-252.

the size of the dividend depending upon the age of the shares, "for interest, and the tolls before that time received and expended in completing the canal."<sup>1</sup> This initial dividend was paid in new stock.

The annual report of the company for the year 1833, showed that the sum of \$10,850, payable in the new stock of the company, remained to be issued; of which sum \$10,100 had been called for, and 101 shares of stock had been delivered to stockholders, leaving a balance of \$750 due on that account.

In 1834, the company owed, in unsettled accounts, about \$2,500, and had claims for stone sold during the year, for about \$2,000.

The piles of stone on the bank continued to fall into the canal, but were removed at intervals and used to build permanent walls on the sides of the canal. About 2,000 yards of this wall were laid during the season of 1834. From the frequency of meeting of boats in the canal, by not conforming to the regulations on that subject, one or more turn-out

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1. Senate Journal (Kentucky), 1833-1834, Appendix, p.13.

places were found to be necessary, and one was begun. In August the water was shut off from the canal, and the mud and stone were removed. The entrance was widened about fifteen feet.

A special meeting of the stockholders was called in November to consider a revision of the tolls. A decision was reached to continue the toll on steam boats at forty cents per ton, actual measurement, and to modify that of flat boats, keel boats, etc. by charging two cents per square foot of their area, instead of the specific sums previously charged.<sup>1</sup>

The first agitation for national ownership of the canal came in March, 1834, when a bill was reported to the House of Representatives from the Committee on Roads and Canals urging the purchase of stock in this canal, and the making of the navigation of the Ohio River "free to all." "The munificence of the government," says the committee, "has been often extended to the Atlantic States, in expenditures on the sea-board and elsewhere, and now every sentiment of justice and impulse of patriotism

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1. Senate Journal (Kentucky), 1834-1835, p. 137.

plead for the exercise of the same liberality toward those who inhabit the Valley of the Mississippi."<sup>1</sup>

In the eleventh annual report of the company to the Legislature, the Directors stated that

the holders of the loans created by the company availed themselves of the right reserved to them in the contract, to convert the amount of the same into capital stock of the company. 1,560 shares of stock were issued in this cause, amounting to \$156,000.

To pay interest on loans and to obtain money to complete the canal, the Board directed the sale of 150 shares of stock, making the total issued, 9,427 shares, and the capital of the company \$947,350.

In view of the balance on hand, the funds of the company warranted a final dividend of four per cent on the 7,717 shares of stock entitled to same, thus making the dividend for the year eight per cent.

In comparing the number of flat and keel boats that have passed this year with that of last, the difference will be seen to be striking; to account for which it is only necessary to observe that, at the season when most of the craft of that description descend, the water was sufficiently high to admit them over the falls. From which circumstances the number of steam boats has increased in a still greater proportion.<sup>2</sup>

An example of the businesslike dealings between

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1. House of Representatives Report No. 348, 46 Congress, 2nd Session, p. 4. Feb., 27, 1880.
  2. Senate Journal (Kentucky), 1835, pp.102-104.

the canal company and the United States Government can be seen in the following paragraph:

In the year 1836, the collector of tolls on the canal requested the Secretary of the Treasury to delay calling for the dividend then due the United States until a petition should be acted upon, which was at the time before Congress, praying that body "that they would forego these dividends provided the canal company would bind itself to reduce the toll in proportion." The Secretary replied that he would "be happy to refrain from using the money until Congress could act on the memorial;" but that in the meantime the amount due "must be paid into the Louisville Savings Bank to the credit of the United States, and a certificate of the fact furnished the department."<sup>1</sup>

The expenditure in 1837, towards the completion of the canal, was \$5,942.05, and fifty shares of stock were sold in January 1838 for \$6,050 to meet the same. During 1838, the amount expended on the same account was \$20,846.30, to replace which, 200 shares of stock were sold in Philadelphia for \$26,000 which left a balance of \$5,361.65 to be appropriated towards the permanent improvement.

The unprecedented continuance of low water during the most profitable season of canal operation in 1838, lessened the receipts by twenty-five to thirty thousand dollars, and instead of five per cent, a dividend

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1. House of Representatives, Misc. Doc. No. 83,  
40th Congress, 2nd Session, p. 18.



of eight per cent would, in the ordinary state of the river, have been paid.

However, the low water was a great aid in the completion of the canal. A pair of new gates were put in at the upper lift lock, and the head of the canal widened by twenty-five feet.<sup>1</sup>

By the reports of the company for the years 1839 and 1840, it was shown that the sum of \$32,261.18, had been expended toward the completion of the canal. During 1841, the further sum of \$5,832.10, was expended for the same object, making the sum of \$38,093.22, for which new stock was authorized to be sold. But, in consideration of the "impolicy" of increasing the stock to an indefinite amount, the Board determined that it would be for the best interests of the stockholders to limit, for the present, the number of shares to 10,000. Thus making the capital stock of the company one million dollars, and to appropriate the necessary amount for the final completion of the canal from the receipts of toll. They therefore, sold 217 shares of stock to make up the number to 10,000.<sup>2</sup>

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1. Senate Journal (Kentucky), 1838-1839, pp. 150-152.  
2. Ibid., 1841-1842, pp. 101-103.

The following table reveals the success of the canal from the year 1831 to the year 1842:<sup>1</sup>

Years	Steamboats	Flat and Keel Boats	Tons	Amounts Received
1831	406	421	79,323	\$ 12,750.77
1832	453	179	70,109	25,756.12
1833	875	710	169,885	60,736.92
1834	938	623	162,000	61,848.17
1835	1,256	355	200,413	80,165.24
1836	1,182	260	182,220	88,343.23
1837	1,501	165	242,374	145,424.69
1838	1,058	438	201,750	121,107.16
1839	1,666	578	300,406	180,364.01
1840	1,231	392	224,841	134,904.55
1841	1,031	309	189,907	113,944.59

The following table of dividends shows the returns to the stockholders from the enterprise:

January 1834---6% dividend	July 1838---6% dividend
January 1835---3% "	January 1839---5% "
July 1835---4% "	July 1839---9% "
January 1836---4% "	January 1840---8% "
July 1837---6% "	January 1841---5% "
January 1838---7% "	July 1841---4% "
	January 1842---5% "

There are several items of interest in these reports. They reveal that the traffic generally was on the increase up to and including 1839, the fluctuations being accounted for by the stages of water in the river.

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1. Reports of the Company to the Legislature of Kentucky. In Senate Journals for the corresponding years.

The receipts of the toll depend mainly on the state of water in the Ohio, which is affected by the weather, and it will at once be seen that the amounts received must depend on the seasons, and are as variant. At times of very high water, the boats could pass over the falls and avoid going through the locks. During some winters, traffic was impeded by ice floes. The dividends on the whole were large, and the stock sold above par value. It is interesting, that for the supposedly bad year of 1837, the canal investors received dividends amounting to thirteen per cent for the business of the year.<sup>1</sup>

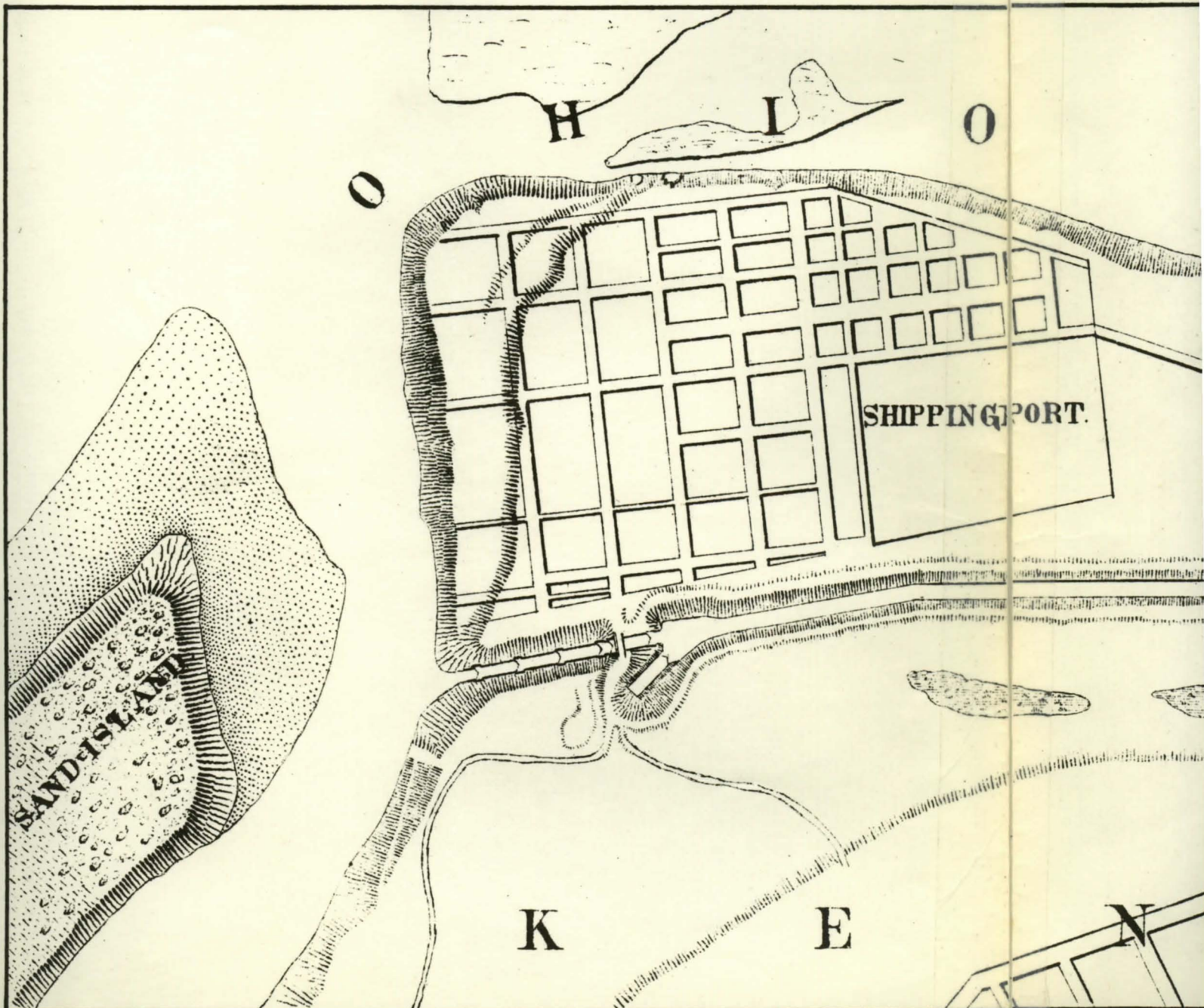
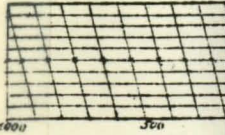
The table of dividends gives evidence that the worst condition did not prevail in 1837, the panic year, nor in 1838-1839, but that the depression reached a climax later. Sales of public lands, westward migration and prices of commodities reveal the same truth, that the worst years were 1840-1842.

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1. The writer has been unable to find any percentage records for dividends that may have been declared in July, 1836, January, 1837, or July, 1840. The year 1836 must have been a good one, and dividends must have been declared. However since the total amount paid for dividends in 1840 was only one-third that of the previous year, it is probable that no dividend was declared in July of that year.

# LOUISVILLE

BEL



*Note: From survey made by Lt. Col. S. H. Long T E 1848.*



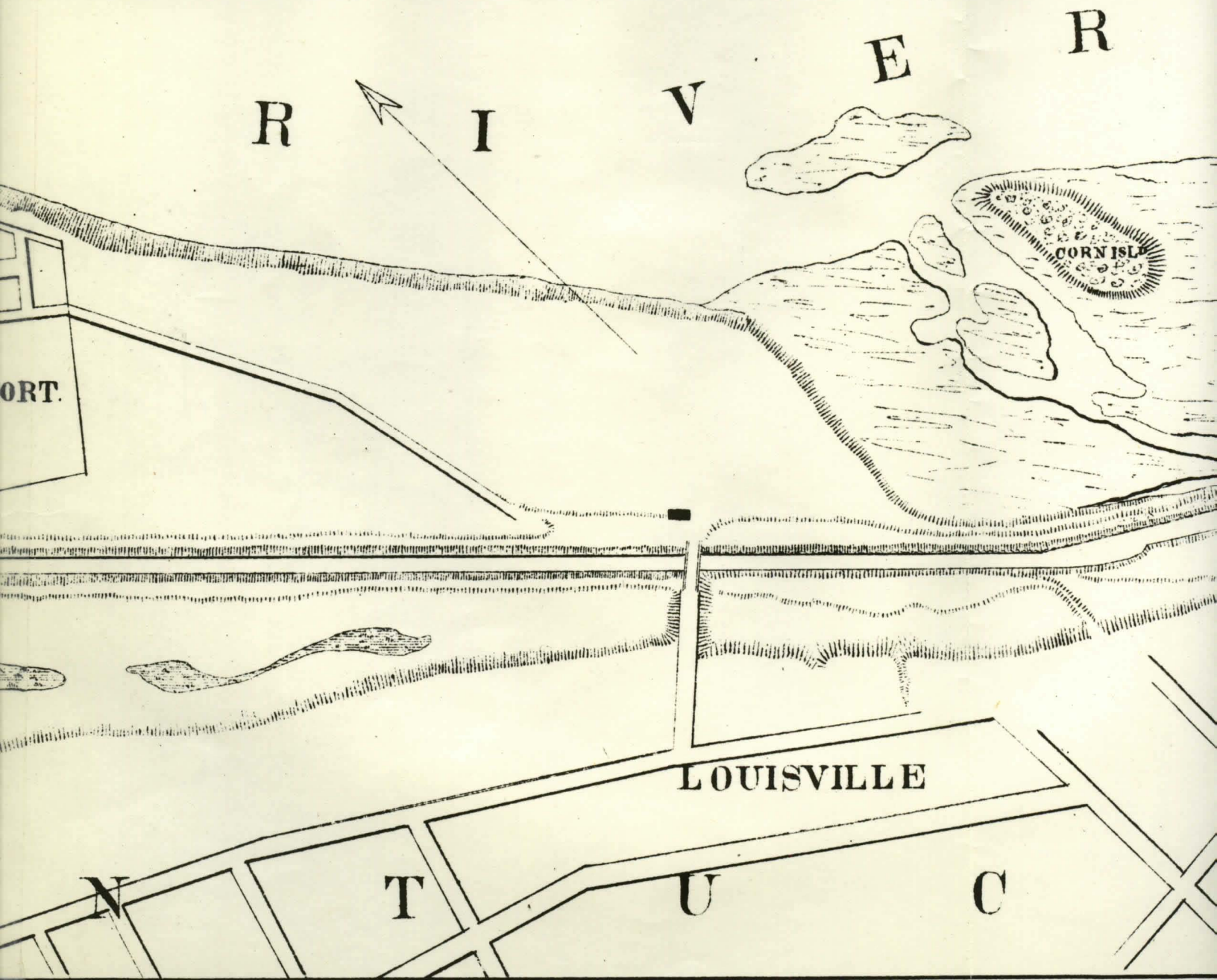
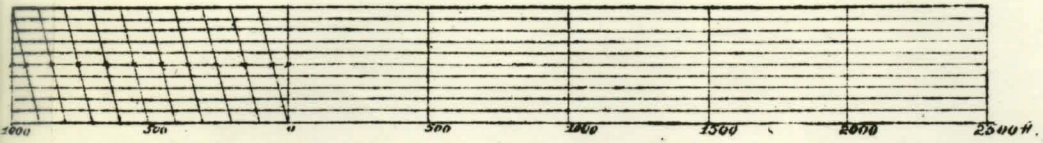
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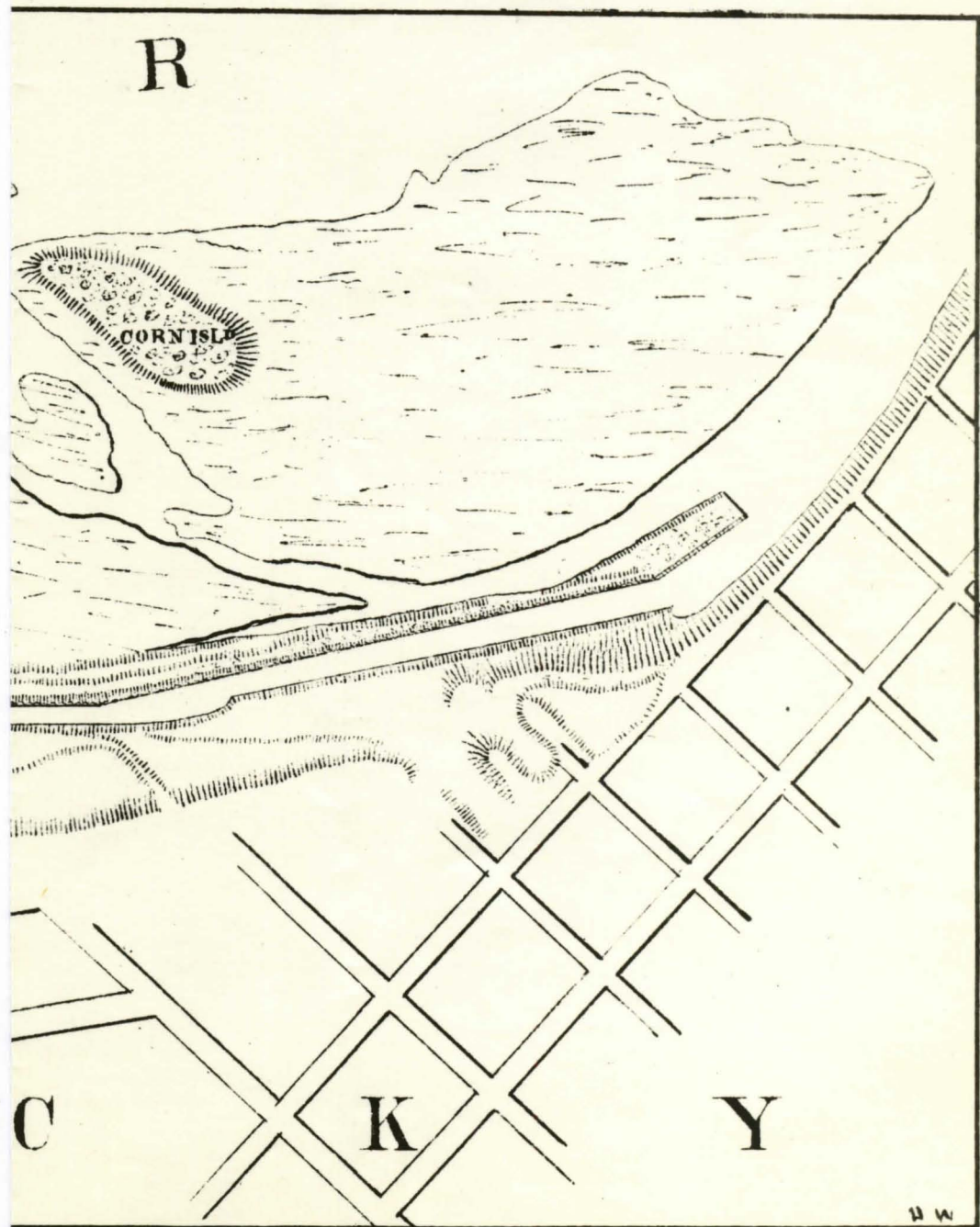
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### CHAPTER III

From January 1, 1842, to January 31, 1855, when the purchase of the individual stock (except the five shares retained by the members of the board) was completed.

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No sooner was the canal in operation and yielding dividends, than a movement was started to bring about public ownership in order to establish practically free passage for traffic.

With a view to the accomplishment of this object, an act was passed by the legislature of Kentucky, which was approved January 21, 1842. This act amended the charter of the company, so that in lieu of declaring dividends, the board of directors were authorized to purchase stock held by private individuals with the net income, and that when these shares were all purchased, to transfer the same to the United States on the condition that the government would only levy sufficient tolls to keep the same in repair and pay the necessary superintendence, custody and expenses, and make all necessary improvements so as fully to answer the purpose of its establishment.



The law provided that, "the maximum price paid for the shares purchased the first year, and six per centum per annum, annually, added thereto, shall be the highest price which shall be paid for the shares in each subsequent year."<sup>1</sup>

The act of 1842 also gave the company the "privilege" of selling the shares of stock owned by individuals to the State of Kentucky, or to the city of Louisville, but both refused the offer.<sup>2</sup> No further dividends were declared, the shares of individuals being purchased and held in trust by the Board of Directors for the United States.

The stockholders met on July 4, 1842, and accepted the amended charter unanimously. Mr. John Hulme, superintendent of the canal, represented the stock owned by the United States under a power of attorney from the Secretary of the Treasury, and verbally accepted the same, although he did not have his vote entered of record; he had received no instructions from the Secretary of the Treasury, although he had given the latter due notice of the time and object of the meeting.

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1. Kentucky Statutes, 1841-1842, pp. 17-19.  
2. Collins, Lewis, op. cit., V.I, p. 553.

After December 31, 1842, the company, in pursuance of the provisions of this amended charter, discontinued all further dividends and proceeded to appropriate the net proceeds of the canal to the purchase of the private stock.

Accordingly, notice was given each stockholder, and bids solicited for the selling of their shares, to which answers were returned from all except the owners of about twenty shares, at the maximum price of \$150 per share.

It was estimated that the balance on hand December 31, 1842, would enable the Board to purchase about 400 shares of the stock of the Company under the provisions of the Act of 1842.

The canal was reported to be in first class condition, and it was believed that by a strict attention to the removal of obstructions, as soon as created, but little expense would be required for many years.

The receipt of tolls for the year 1842 was greatly diminished due to the difficulties and embarrassments in the commercial affairs of the country, and the long continued high water in the Ohio. However, an increase of tolls for the next

and succeeding years was confidently anticipated.<sup>1</sup>

In the 19th Annual Report of the President and Directors of the Company to the legislature of Kentucky, it was stated that 471 shares of stock had been taken in and paid for during the year 1843, and that in view of the balance of cash on hand December 30th, it was estimated that upwards of 500 shares could be purchased during the next year. This number, added to the shares already purchased would make the United States, virtually, the owners of about two-fifths of all the shares in the Company, and by the operation of the law, they would have a major part of the stock in two years.

The canal was reported to be in good condition; new gates and a drawbridge with other necessary repairs, having increased the expenses of the past year. From the complaints made by the commercial community concerning the high tolls, the board was induced to reduce the rate from sixty to fifty cents per ton.<sup>2</sup>

On the 10th of February, 1844, the House of Representatives of the United States, by

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1. Kentucky Documents, 1842-1843, p. 294.

2. Senate Journal (Kentucky), 1843-1844, pp. 62-63.

resolution, called upon the Secretary of the Treasury for certain information relative to the Louisville and Portland Canal---the condition of the work, the amount of tolls collected, the effect of such tolls upon the commerce of the river, whether the canal was of sufficient capacity to accomodate that commerce, and as to the desirability of enlargement. The secretary (Mr. Spencer) immediately communicated these resolutions to the surveyors of customs at Cincinnati, Louisville, and St. Louis, and the president of the canal company, at Louisville, calling for the information desired; and on February 22nd he communicated to the Speaker of the House the several replies of these officers, which were, on the 26th, read and referred to the Committee on Commerce.

The surveyor of Cincinnati, in his reply, states that the expense for tolls to a regular trader between that city and St. Louis, of one hundred and ninety tons burden, costing originally, when complete and ready for service, \$13,000, was \$4,000 per year, or \$20,000 for the period of her natural life, "say five years." He further estimates the cost for tolls of "one of the largest class of steam vessels" plying

regularly between Cincinnati and New Orleans at \$2,400 per year, or \$12,000 for five years.

The surveyor at Louisville gives four years as the average life of a Louisville and New Orleans trader, and in reference to the inquiry "concerning the improvement or finishing of the canal," he says that "if it is to remain at its present size, it is complete and in good order; but it is my opinion it should be enlarged as soon as practicable, as its capacity to pass steam boats of the present day is entirely too small."

The president of the Louisville and Portland canal, in his reply, estimates that a Cincinnati and New Orleans trader, "of say three hundred tons," will pass the canal ten times in the course of a year, and in five years pay for tolls \$7,500, or nearly one-third of her original cost when completed, equipped, furnished, and provisioned for a voyage. A Pittsburg and St. Louis trader of two hundred tons, passing the canal only ten times, which would be but five trips and return, would in the five years of her life pay no less than \$5,000, or within a fraction of one-third of her cost when first ready for a voyage.

The fourth section of the amended charter of the canal company, passed in 1842, having been deemed objectionable, an application was made to the General Assembly in 1844, and the following act was passed:

Be it enacted by the General Assembly of the Commonwealth of Kentucky, that in the event of the United States becoming the sole owner of the Louisville and Portland canal, the jurisdiction of this Commonwealth shall be yielded up to the Government of the United States; and no annual report, as mentioned in the charter of the Company, shall be required to be made by the United States, or their Agents or Superintendent's of said canal, to the General Assembly of this Commonwealth.<sup>1</sup>

Thus Kentucky had done its part in aiding the United States to take over the canal by removing every objection on the score of jurisdiction.

On the 20th March, 1844, the Secretary of War (Mr. Wilkins), in response to a resolution of the Senate of the 21st February of the preceding year, communicated to the President of the Senate a report upon the subject of the Louisville and Portland canal from the chief of the corps of topographical engineers. This report, besides considering the various projects then suggested for improving the navigation of the

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1. Kentucky Documents, 1844-1845, pp. 477-479.

Ohio river at the falls, presented the benefits and defects of the canal as it then existed, the cost of the work to that time, the number of shares of stock owned severally by the United States and by individuals, the total sum of the tolls received, and the aggregate amount of the tonnage passed from the period of the first opening of the canal. In discussing the benefits of the canal in his report, Captain T. J. Cram of the U. S. Corps of Topographical Engineers says that

although the canal has taken toll, the commerce of the West has annually realized a benefit of \$180,788 as a direct consequence of the construction of this work, to say nothing of the saving of the item for pilotage over the falls; and should the present policy obtain, of allowing the canal to continue its tolls, still, this commerce would also continue to be annually benefitted by the canal by the sum of \$180,788. But, should the canal become free, an additional advantage would accrue to commerce, and the measure of this is now to be estimated thus: The annual sum, on an average, collected as tolls, has been \$93,362. This, would of course, have been an additional annual saving to commerce, had the canal been maintained without charge to the grade. Therefore, the same rate of business continuing, there will be the sum of \$93,362 as the measure of the additional saving that would be consequent upon rendering the canal free.

Let it be supposed, now, that tolls be charged only to realize annually the sum

of \$25,000 for maintaining an improved canal. This sum taken from \$93,362, will leave \$68,362 as the measure of that additional saving; and if we take into account an increase of business of only twenty-three and one-half per cent, we shall find the measure of the additional saving to be \$84,427 annually.

This saving in the next fifteen years will amount to \$1,266,405, which is near the cost of all the required improvements, the stock yet to be purchased from individuals, and of the dry dock. If the business should increase by fifty per cent, the annual additional saving would amount to that sum in twelve and one-third years, commencing from the first of January, 1844.<sup>1</sup>

According to the twentieth annual report of the canal company, 544 shares were taken in during 1844, and from the balance of cash on hand, an estimated 770 additional shares of stock could be purchased during the ensuing year. During 1844, the canal was actively employed, and a greater amount of tonnage passed than in any former year. However, a reduction in the rate of toll, made the net receipts less than in 1839, while there was an increase on those of 1843 by upwards of \$33,000.<sup>2</sup>

On the 26th of December, 1844, the House of Representatives of the United States passed a

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1. Report of the Secretary of War, 28th Congress, 1st Session, March 20, 1844, p. 23.
  2. Kentucky Documents, 1844-1845, pp. 477-479. (The canal and its appendencies were in good condition; it was closed for one week during the extreme low water and all obstructions removed.)



resolution calling upon the Secretary of the Treasury for his opinion as to the propriety of the purchase by the United States of the residue of the stock held by individual stockholders in the Louisville and Portland Canal Company, with a view to making the navigation of the canal free from toll; and also the terms, in his opinion, on which the purchase could be made, and the probable amount of money which would be required to effect it.

The Secretary (Mr. Bibb) replied on the 21st of January, 1845, naming \$630,000 as the probable amount of money that would be required to purchase the stock held by individuals, and earnestly recommended the purchase for the purpose named. "In doing so," he remarked, he did "not confine his views to the sum of \$630,000," but added to "a further expenditure as essential to the great object of overcoming the natural impediment by an easy and convenient water communication, free of the burdens and tolls upon commerce and navigation, which are felt as greivous and much complained of by the people of the United States."

In reply to a letter from the Secretary of

the Treasury asking for information, the president of the canal replied January 8, 1845, stating that the whole number of shares in the canal was 10,000, of which the United States owned by subscription, by purchase, and through stock dividends, 2,902 shares, 1,786 shares had been purchased under the charter as amended in 1842, and that the net income of 1845 was estimated at an aggregate which would be sufficient to purchase 812 additional shares, which would leave at the close of that year 4,500 shares standing in the names of individuals. And the president of the canal expressed the opinion that, with the declared purpose of making the work free, these 4,500 shares could be purchased for the sum of \$600,000. In the same letter he stated the average amount of tolls collected at \$150,000 per annum. This letter the Secretary communicated to Congress, approving of the purchase, recommending the appropriation, and urging speedy congressional action. However, nothing further was done at this time.<sup>1</sup>

On the 31st of December, 1845, in the House of Representatives, Mr. Tibbatts, from the Committee on Commerce, to whom had been referred "a petition of the

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1. Misc. Document No. 83, H. of R., 40th Congress,  
2nd Session, p. 18.

merchants and steamboat owners of the valley of the Ohio and Mississippi praying Congress to purchase the individual stock in the Louisville and Portland canal for the purpose of making it free from toll," the committee having had the subject under consideration, reported in favor of the measure, accompanied by a resolution making provision for carrying into effect the object of the petition. The resolution was well sustained by argument. After being read, the report of the committee was referred to the Committee of the Whole.<sup>1</sup>

According to the twenty-first annual report of the canal company, 771 shares were purchased from the stockholders during the year 1845, and from the balance on hand December 31, 1845, it was estimated that about 665 additional shares of stock could be bought during the next year. This would give the United States ownership of 5,353 shares, leaving but 4,647 to be liquidated.

A slight diminution of tolls from the previous year was caused by the severity of the weather during the month of December, due to which navigation was obstructed by ice.<sup>2</sup>

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1. Misc. Document No. 83, H. of R., 40th Congress, 2nd Session, p. 8.
  2. Senate Journal (Kentucky), 1845-46, pp. 90-91.

During the year 1846, 655 shares were taken by the company, falling just ten short of the estimate of the previous year, and in view of the balance of cash in the treasury, it was believed that 665 additional shares could be purchased during the ensuing year.

The unprecedented high water in the Ohio river during the spring and fall of the year, deprived the company of the receipt of tolls for six weeks, of the most busy seasons, which would have given an amount equal to the most favorable year.

From the large interest of the Government of the United States in the canal, the Board deemed it right to permit boats exclusively employed by the United States to pass through the canal free of toll, many of which, with troops and munitions of war, availed themselves of this privilege.<sup>1</sup>

The number of shares purchased from the stockholders in 1847 plus those purchased in 1848, left only 2, 824 shares remaining in the hands of private individuals.<sup>2</sup>

The unusual high water in the spring and summer of 1847 caused a loss of three months toll,

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1. Senate Journal (Kentucky), 1846-47, pp. 85-86.  
2. Ibid., 1847-48, pp. 69-70.

and the "disastrous" flood of December in the same year ran the total amount of repairs over the two year period up to \$18,000.<sup>1</sup>

The next action taken by the National Government in regard to the canal was in the Senate, February 15, 1851, when the following resolution was passed:

Resolved, That the Secretary of the Treasury be requested to ascertain and report to the Senate what amount of the stock of the Louisville and Portland Canal Company was subscribed for by the United States; what was the original stock of said company; what additional stock has been created, and how the same has been disposed of; what dividends have been received by the United States and when; what arrangement has been made, if any, for the purchase of the stock of said company, and with what object; and whether the assent of the United States has been given to said arrangement, and if so, when and by whom; and what amount of stock is now held by the United States, and by the several individual stockholders respectively.<sup>2</sup>

In the Senate, February 27, 1851, Mr. Bright, from the Committee on Roads and Canals, to whom had been referred a bill "to remit the tolls on the United States stock in the Louisville and Portland Canal Company, and to purchase the stock of individual stockholders, and to make the navigation of said canal free," submitted a report, which was ordered to be printed with a substi-

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1. Senate Journal (Kentucky), 1848-49, pp. 63-64.  
2. Misc. Document, op. cit., p. 8.

tute for the bill. The report declared that the committee had been deeply impressed with the magnitude and importance of the subject, and had bestowed upon it their deliberate consideration. It then said: "There can be no question that the subject is essentially national in its character, and it is a subject of regret that this canal has been so long continued an instrument of oppressive exaction on the trade and commerce of the West, and that the United States by being an extensive stockholder, has been a party to this oppression; and the committee believe that the universal public sentiment calls loudly for an immediate abatement of this stupendous monopoly, and for an adequate provision by the general government to insure the free navigation of the Ohio river, in which so many States of this Union are so deeply interested."

Again in 1852 an elaborate report was submitted to the House of Representatives in which the great "national importance" of the canal was stressed along with its "inadequacy to the purposes of its construction." The committee reached the conclusion that, "to answer the wants of the vast and increasing commerce of that river, two canals are indispensable,

one on each side." Consequently, a board of engineers was authorized by the Secretary of War to report in detail on the situation. After having made such examinations as were necessary, the board reported on three plans for the improvement of navigation at the falls of the Ohio. The first dealt with an improvement on the Indiana side; the second dealt with an improvement on the Kentucky side having no connection with the existing canal, and the third dealt with improvement of the Louisville and Portland canal. The committee, after much detailed reasoning, chose the third plan.

In December, 1853, the Secretary of the Treasury (Mr. Guthrie) called the attention of Congress to the canal, stating that it had become almost entirely the property of the United States, and requested appropriate legislation by Congress with reference to the work.

In the House of Representatives, June 10, 1854, Mr. Preston, from the Committee on Roads and Canals, reported a bill "to provide for taking charge of the Louisville and Portland Canal, and to prevent the same from falling into bad repair," which was read twice, recommended to the committee, and ordered

to be printed. This bill provided that as soon as the Secretary of the Treasury should be notified by the President of the canal company that all the stock had been purchased for the United States, then the Secretary should appoint the proper officers to take possession and control of the canal and all its works.

On January 31, 1855, the president of the canal company made a special report to the Secretary of the Treasury (Mr. Guthrie), stating the balance of cash then on hand at \$5,148.63, after finally liquidating the last of the individual stock, except five shares held by the president and four directors for eligibility. The stock stood as follows:

Held by directors individually, 5 shares.  
Held by directors in trust for the United  
States, 7,093 shares.  
Held by the United States, 2,902 shares.

All general and incidental expenses had been paid to date; also the "claim of Thomas Hulme," for \$5,000, and \$50,000 for the Portland dry-dock, according to contract previously reported. Among the expenses noted as "incidental" is mentioned an item of \$7,500 extra compensation voted by the stockholders at their



annual meeting in January, 1854, to be paid to the officers. The reduction of tolls is stated in this special report as follows: on steamboats, from fifty to twenty-five cents per ton; on produce flat-boats, from three cents to one and a half cents per superficial foot; on hay, coal, and lime boats, from two cents to one cent per superficial foot. The president of the company concludes his report with the following important statements:

These reduced rates will yield a sufficient revenue to meet the ordinary expenses of the canal, and to make some repairs that are necessary. The canal is now ready to be transferred to the custody of the general government, so soon as the department may be prepared to receive it. The board of president and directors beg leave to say that they will cheerfully continue to direct the affairs of the work, as heretofore, so long as the department may wish the same intrusted to their care. A plan for improving the canal has been submitted by John Hulme, of Philadelphia. The board has carefully examined it, and consider it so excellent and feasible that they beg leave to commend it to the favorable consideration of the department.<sup>1</sup>

The following table shows how and when the United States acquired all but five shares of stock in the Louisville and Portland Canal Company.<sup>2</sup>

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1. Misc. Document, op. cit., p. 20.
  2. Ibid., p. 26.

Year	No. of shares purchased	Price paid per share	Total amount paid
1825	1,000	\$100.00	\$100,000
1829	1,335	\$100.00	133,500
1831	567	Stock dividend for accrued interest	
1843	471	\$148.93	70,145
1844	544	\$159.00	86,496
1845	771	\$168.00	129,528
1846	665	\$177.00	117,705
1847	667	\$186.00	124,062
1848	526	\$195.00	102,570
1849	634	\$204.00	129,336
1850	470	\$213.00	100,110
1851	400	\$222.00	88,800
1852	610	\$231.00	140,910
1853	530	\$240.00	127,200
1854	805	\$251.17	202,200
Total	<u>9,995</u>	<u>. . . .</u>	<u>\$1,652,562</u>

Adding \$56,700 to the total amount paid column, which is the amount of the dividend for which stock was accepted by the United States in 1831, we see that the number of shares purchased was 9,995, and the cost was \$1,709,262.00.

The complete statement shows that the United States became the sole owner of the Louisville and Portland Canal in the year 1855, with the exception of five shares of the canal stock held, one each, by five gentlemen, for eligibility as directors. It shows further, that the United States acquired this property without actually paying one dollar from the national treasury. And still further, it shows that, in addition to the property thus obtained, it acquired

\$24,278 in money, that sum having been paid to the United States in the form of cash dividends beyond the sum originally invested by the government in the stock of the company.

## CHAPTER IV

From January, 1855, when the United States acquired control of all but five shares of stock in the canal, to 1868, when Congress ordered a new survey and report to be made on the navigation at the falls of the Ohio.

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On February 8, 1855, the Secretary of the Treasury wrote to the President of the United States that, "as heretofore explained," the board of president and directors of the Louisville and Portland canal had by him been requested to retain one share of the stock of that company, in order that no difficulty might arise in the management of the work. He at the same time enclosed a report to the President which he had received from the president of the canal, showing that all the stock but the five shares thus retained had been redeemed, that the work was free of debt, and that the tolls had been reduced one-half, (to twenty-five cents per ton.) In closing his letter to the President of the United States, the Secretary of the Treasury said:

The canal, with the exception of the five shares, is now the property of the United States, and may, as Congress shall direct, be enlarged to suit the trade of the Ohio,

as suggested by Mr. Hulme, (in an accompanying letter,) from the tolls, or by surrendering the canal to the commonwealth of Kentucky, on such terms as will secure the same object and make it free.

On this letter the President made the following indorsement:

Return the papers to the Treasury Department. Will the Secretary bring the subject to my special notice before the meeting of Congress?

On the 14th of March, and again on the 7th of April, the Secretary of the Treasury wrote to the president of the canal requesting, further, his views with reference to "Hulme's plan" of improving the work.

The president of the canal replied to both letters in one, April 12th, presenting his matured views somewhat in detail. In this letter, referring to the narrowness of the canal and the ledges of rock that jutted from its sides, he said, with reference to steamboats:

The difficulty of getting through without serious damage to their wheels and machinery makes it necessary for them to move so slowly and cautiously in low water that it is not an uncommon thing for a boat to spend twelve hours in passing through the canal. Were the projecting ledges removed, very few of the boats would require more than one or two hours.

Again:

If the canal had two additional basins, boats might readily pass each other, and a number of them might be in the canal at the same time. This would enable us to do much more business, and would prevent the vexatious delays that are at present unavoidable. A guard gate and a floating boom were much needed.

On April 20, 1855, the Secretary of the Treasury wrote to the president of the canal as follows:

Your favor of the twelfth instant has been received and considered. I concur with you that if Mr. Hulme's plan of repairing the Louisville and Portland canal should be adopted, that only a part of it should now be carried out; and that part you indicate, because that part would not commit the company to the enlargement of the locks, but leave that question open to a mature consideration; and whatever may be the ultimate mode of enlargement that may be adopted, the other parts of Mr. Hulme's plan will be proper to a convenient navigation of the canal. And you will, therefore, be authorized to contract: 1st. For the guard-gate; 2nd. The removal of the ledges on the margin of the canal; 3rd. The basins; 4th. The floating boom at the head of the canal. In making these contracts you will have the work done as speedily as possible; but as payment can only be made out of the surplus tolls, that fact must be declared in your contracts, so that no liability shall accrue against the company, the payment of which is not to await the receipts of the canal. This is written upon the predication that the contract is preferable to doing it by days' work and a superintendent, but that may not be the case.

Upon the original of this letter is the following indorsement by the President of the United States:

Let the improvements be made with the tolls, with the distinct understanding that the government commits itself to nothing involving a material change in the capacity of the canal and locks; incidental expenses to be strictly within income at reduced tolls, as proposed.<sup>1</sup>

In May, 1855, the president of the canal advised the Secretary of the Treasury that day labor, directed by competent superintendence, would be cheaper and more efficient than a contract for the work planned.

In June, 1856, Colonel S. H. Long was appointed by the Secretary of War to prepare a plan and estimate for a new set of locks for the Louisville and Portland canal. The president of the canal reported to the Secretary of the Treasury that the board of directors had also employed an engineer for the same purpose. The latter's report was forwarded to the Secretary, but was considered by the president of the canal, who sent it, to be at least twenty per cent too low.

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1. House Document No. 83, 40th Congress, 2nd Session. pp. 20-21.



In August, 1856, the Secretary of the Treasury in a letter to the president of the canal, said that the plan and estimates for the new locks had been directed under the expectation that Congress might make an appropriation in order to make the canal sufficient to pass the larger vessels; but that expectation had not been realized. The president was authorized however, to secure the necessary land for the construction of new locks.

In September of the same year, Colonel Long's plans and estimates were sent to the president of the canal for his consideration. He immediately wrote his opinion to the effect that the plans were liable to many serious objections, and expressed doubt as to whether they could ever be put into use. He said that his opinion was sustained by the unanimous voice of the steamboat men, and of all the engineers (except Colonel Long) that had ever examined the location. The canal president further stated that the work then under construction would probably be completed within thirty days.

In August, 1856, a bill for enlarging the Louisville and Portland canal, or improving by other means the navigation at the falls of the Ohio, was

reported on in the United States House of Representatives. The bill provided for appropriating the sum of \$500,000 to the purpose of enlarging the canal," and for "a reduction of tolls to an amount" (ten cents per ton) "only necessary to keep it in repair and pay cost of management." However, the matter got no further at this session.

In the Senate, January 14, 1857, the following resolution was passed:

Resolved, That the Secretary of the Treasury be requested to inform the Senate the number of shares of capital stock of the Louisville and Portland Canal Company now belonging to the United States, and also of those owned by other persons or corporations; how and by whom the tolls levied on the passage of vessels and property through the Louisville and Portland canal are collected; the rates of toll, the gross annual amount thereof since the first of January, 1850; the expenses of collection, superintendence and repairs, and the net revenue subject to division among the stockholders; also, by whom the rates of toll are now regulated; and generally all information which in his opinion may be promotive of proper legislation on the subject of said canal.<sup>1</sup>

Accordingly, the Secretary of the Treasury wrote the president of the canal asking for the required information. The president reported these facts, and in addition listed the annual amount of tolls collected

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1. House Document, op. cit., p. 13.

from the first of January, 1850, to January, 1855, with the expenses of collection, superintendence and repairs.

On the 25th of November, 1857, in response to a communication of the 4th from the Secretary of the Treasury, (Mr. Cobb,) calling for a report, "embracing such facts and information as may be useful and interesting to the public," the president of the canal wrote at considerable length. He sets forth the fact that, acting under the charter of the company, as amended by the legislature of Kentucky, in February, 1842, the board had from year to year appropriated the net income of the canal to the purchase of the individual stock, until, on January 31st, 1855, the amount then on hand being sufficient to extinguish all that remained, he "announced to the department the readiness of the board to tender the custody of the canal to the United States, upon the conditions prescribed by the amended charter. The department, he says, "replied that there had been no legislation authorizing the acceptance of the canal, and requested that the president and directors should each retain one share of stock," for eligibility as a managing board, and continue the management until there should be legis-

lation upon the subject by Congress, which they consented to do; and their management of the canal, he says, was "with strict reference to the requirements of its charter." The improvements as suggested by Mr. Hulme, and authorized by the concurrent action of the Secretary of the Treasury (Mr. Guthrie), and the board of president and directors, were nearly completed, and at the date of his letter he believed there was money enough on hand to finish them "and purchase the ground yet required for the branch canal." That balance he stated at \$53,523.95. The improvements effected were important; they materially increased the facilities and safety of navigation, and gave great satisfaction.

By an act of the legislature of Kentucky, approved December 19, 1857, it was declared

that the charter of the Louisville and Portland Canal Company be so amended as to authorize said company to construct with the revenues, and on the credit of the corporation, a branch canal sufficient to pass the largest class of steam vessels navigating the Ohio river; and said company are hereby vested with all power and authority to acquire and hold the necessary lands for such branch, and to construct the same, vested by the charter and amendments for the construction of the original canal, and all the provisions of the original charter and amendments shall be, and are hereby made, as

applicable to the branch as to the original canal.<sup>1</sup>

On the 26th of May, 1858, the Secretary of the Treasury (Mr. Cobb) wrote as follows to the president of the canal company:

Referring to the report made by you on the 25th of November last.....I have to say that you will take no further steps..... and make no expenditures of the company's revenues.....beyond keeping the canal in repair.....until you are further advised by this department, as all the facts in the case will be reported to Congress for its action.

The receipt of the Secretary's letter "by due course of mail," was acknowledged by the president of the canal company. This gentleman at that time informed the Secretary that before the receipt of the latter's correspondence, contracts had already been entered into for the purchase of all the real estate which would be required for the future use of the canal.

The president of the canal then took issue with the Secretary of the Treasury over the latter's assumption that he possessed the controlling voice in

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1. Kentucky Statutes, 1857, p. 223.

the affairs of the company. The president pointed out that the directors were but trustees of the stock acquired under the operation of the act of 1842, but that the United States were not the proprietors of any stock in the company beyond the shares held absolutely on the 21st day of February, 1842, and in the management of the affairs of the company were entitled legally to no further control than by the vote of said stock they could give to the company in the selection of its officers. The president further stated that it was his opinion that a reasonable period had already elapsed within which Congress might elect to take over the control of the canal, but that he had been instructed by the board to say that until Congress should again have had an opportunity to legislate upon the facts, and to elect whether the United States would undertake the trust declared by the statute of Kentucky, the president and directors would continue to conduct the affairs of the company "as to observe with all fidelity the preservation of such surplus as shall represent the shares of the United States compared to the aggregate belonging to the whole stock of the company."

In his annual report to the Legislature of December 22, 1859, on the state of the finances, Mr. Cobb again presented the subject of the canal, saying its condition was "so anomalous as to require the action of Congress." After repeating facts often stated before, the Secretary concludes his reference thus:

Under the laws of Kentucky the United States are substantially the owners of the canal, but no authority has been given to supersede the corporators in its management, no action having been had on this subject since the amended charter by Kentucky. Under these circumstances, I would refer the whole subject to Congress for such action as they may deem proper.<sup>1</sup>

In 1860, the legislature of Kentucky passed a series of resolutions, which were approved by the governor of the State on the 1st of March, declaring that the commercial interests of the Mississippi valley imperatively demanded an enlargement and improvement of the Louisville and Portland Canal, and that the money already invested in said canal by the United States government would prove of little public benefit unless the work should be enlarged and extended. And the senators and representatives from

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1. House Document, op. cit., p. 15.

Kentucky, and the Congress of the United States, were earnestly requested by these resolutions to procure an appropriation by Congress adequate to the exigency of the case, and to adopt such measures as would insure a speedy enlargement and completion of said canal.<sup>1</sup>

Finally, through the persevering exertions of the immediate representative of the Louisville district (Mr. Mallory), Congress passed the following joint resolution, which was approved by the President May 24, 1860:

Resolved by the Senate and House of Representatives of the United States in Congress assembled, That the President and directors of the Louisville and Portland Canal Company be, and they are hereby, authorized, with the revenues and credits of the company to enlarge the said canal, and to construct a branch canal from a suitable point on the south side of the present stream, to a point on the Ohio river, opposite Sand island, sufficient to pass the largest class of steam vessels navigating the Ohio river: Provided, That nothing herein contained shall authorize said president and directors, directly or indirectly, to use or pledge the faith or credit of the United States for the said enlargement or construction, it being hereby expressly declared that the government of the United States shall not be in any manner liable for said enlargement or construction: Provided further, That when said canal is enlarged, and its branch canal is constructed, and its cost of said improvement paid

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1. Senate Journal (Kentucky), 1860-61, pp. 201-203.



for, no more tolls shall be collected than an amount sufficient to keep the canal in repair.<sup>1</sup>

Immediately after the act of Congress of May 24, 1860 had been approved, the directors of the canal raised money by issuing bonds, purchased land, and engaged the services of Mr. Theodore R. Scowden, a distinguished hydraulic engineer. Under his direction detailed plans were prepared, and the work of enlargement was commenced. The Civil War so increased the cost of labor and material that the estimates were greatly overrun, and in 1866, after expending about \$1,825,403, the directors were compelled to suspend the work.<sup>2</sup>

The engineers estimate of the cost of constructing the branch canal was \$853,770, and the bid accepted for the work was \$865,185. Actually, the sum expended was \$1,060,023.20, leaving it still unfinished. This shows an excess of the expenditure for work done, over the contract price for the whole work as \$194,838.20; of which excess the following explanation is drawn from the records of the company.

At the regular meeting of the board of directors for the month of September 1863, a

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1. Laws of the United States, Relating to the Improvement of Rivers and Harbors, V.I., p. 139.
  2. Report of the Chief of Engineers, 1866, p. 876.

communication (dated the twentieth of the preceding month) was presented from the contractors, setting forth that inasmuch as the contracts under which they were working were made at a time when the United States, in both its home and its foreign relations, was in a condition of ordinary quiet and repose, from which no human sagacity or foresight could have anticipated the acts and relations that within a short time succeeded; and that inasmuch as that labor and materials of all kinds had, in consequence of the changed condition of affairs, increased in the average more than fifty per cent, (which statements were accompanied by the relation of many facts fully verifying them) they, the contractors, felt justified in every respect in requesting the board, after a thorough investigation and consideration of the whole subject, to increase the prices at which they had contracted to execute the several descriptions of the work at least thirty per cent from the first of January preceding, "that being about the time when prices reached their maximum," as otherwise inevitable ruin was before them; and that which would break them down would of course render impossible the fulfillment of their obligations, and retard materially, if not postpone for an indefinite time, the important work which they had undertaken to

construct. The contractors presented an alternative for the consideration of the board, which was, that if the latter should so prefer, they would throw up and cancel their contracts, and make a just and satisfactory arrangement with reference to the machinery prepared expressly for this work, which they were using. An agreement was made by the board, whereby the advance should be made from the first of September instead of the first of January, and the work was prosecuted with renewed energy. However, in April, 1864, a similar communication was received from the contractors, and a similar settlement was made, the advance on the contract price being made from May, 1864. In March, 1865, prices of labor and materials having still further advanced, a third communication was addressed to the board. It was deemed inexpedient however, to make any further advance in prices, so the board thought it best to accept the surrender of the contracts, and proceed with the work by day labor and small contracts as judiciously as possible, directing their means and energies as much as they could to such parts of the general work as would, when they should be compelled to stop for the want of money, leave the enlarged canal in the best condition for the increased demands that would

henceforth be made upon it.

Mr. W. D. Gallagher, special agent of the Treasury Department, was authorized to make a report on the Louisville and Portland canal in September, 1867. At the conclusion of his report, and in regard to the debt owed by the canal company for its unfinished improvements, he says:

Contrary to my understanding when this investigation was commenced, this debt was legitimately contracted under both State and national authority. And contrary to what I believe is the general impression, the improvements made in the canal from time to time, and the use of the moneys and credits of the company to effect the same, were with the concurrence of the Secretary of the Treasury for the time being, expressed or implied, and the knowledge of at least the appropriate standing committees of Congress, derived from information communicated from the Treasury Department; while the purchase of land for the branch canal, and the enlargement and improvement of the old canal, were directly authorized by the Secretary of the Treasury (so far as he had the power to authorize them) in the Month of March, 1857, by the legislature of Kentucky in the same year, and by the United States Congress in May, 1860.

In regard to the management of the canal in 1867, Mr. Gallagher goes on to say:

An anomaly appears in a condition of things in which five private gentlemen, constituted trustees for the United States by the legislature of a State, without special responsibility anywhere, and holding and exercising the power to name and constitute their successors, whom neither the Secretary of the Treasury nor the Congress of the United States, nor any other national authority, can remove or control by

ordinary means, or by any means other than those prescribed by the legislature of the State aforesaid, hold and control public property that has cost millions of dollars, collect a heavy tax upon the commerce of our most important rivers, which they can increase at their pleasure, and expend in their discretion, for salaries, operating machinery, improvements, and extensions, the moneys thus obtained. It matters not that these are honorable gentlemen, and that they have not heretofore abused these trusts and powers, the anomaly still exists, and will exist until Congress legislates in the manner prescribed by the legislature of Kentucky in the year 1842.<sup>1</sup>

It is interesting to note in connection with this controversy over the indebtedness of the canal company, that Mr. James Guthrie, who was Secretary of the Treasury during the administration of Franklin Pierce from 1853 to 1857, and who cooperated so smoothly with the canal company in many communications and affairs during this period, should in 1867 be corresponding with the United States government as president of the canal company, and in defense of its policies. In fact, Mr. Guthrie attacks the policy of the Honorable Howard Cobb, his successor as Secretary of the Treasury, who in 1858 placed his interdict upon any further appropriation of the canal revenues in reference to a branch canal.

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1. House Document, op. cit., p. 38.

From the material contained in this chapter we can see the uncertainty and indecision which affected the business dealings and management of the canal company during the period from 1855 to 1867. However, in spite of all this, the canal managed to do quite a good deal of business, as is shown in the following table:<sup>1</sup>

Year	No. of steam-boats passed.	No. of other boats passed.	Tonnage	Tolls
1855	1,232	615	355,190	\$ 94,356.19
1856	1,002	506	232,780	75,791.85
1857	1,419	740	338,669	110,015.38
1858	1,079	529	249,360	75,479.21
1859	1,281	592	285,305	90,905.63
1860	1,520	1,299	340,898	131,917.15
1861*	551	329	134,382	42,650.02
1862	731	436	140,599	69,936.90
1863	1,223	1,064	242,415	152,937.02
1864	1,014	976	247,686	164,476.26
1865	1,007	832	239,347	175,515.49
1866	891	1,393	234,323	180,925.40
1867	243	556	68,715	54,399.10
Total	13,193	9,867	3,109,669	\$1,419,305.60

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1. House Document, op. cit., pp. 35-36.

\* In the year 1861, 26 steamboats and 118 other boats included in the above) in the service of the government passed toll free.

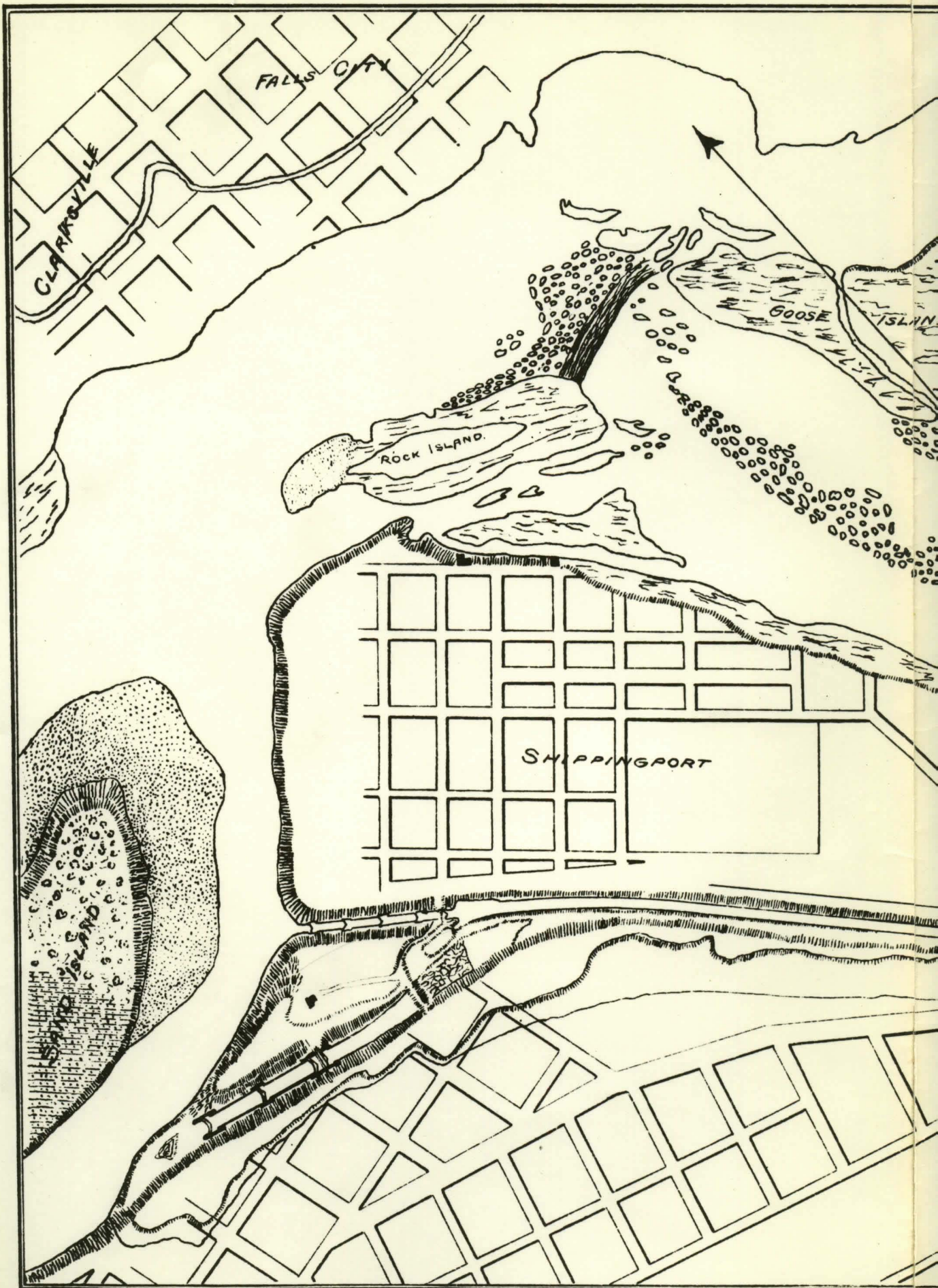




PLATE II

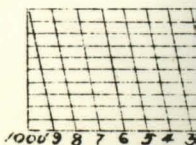
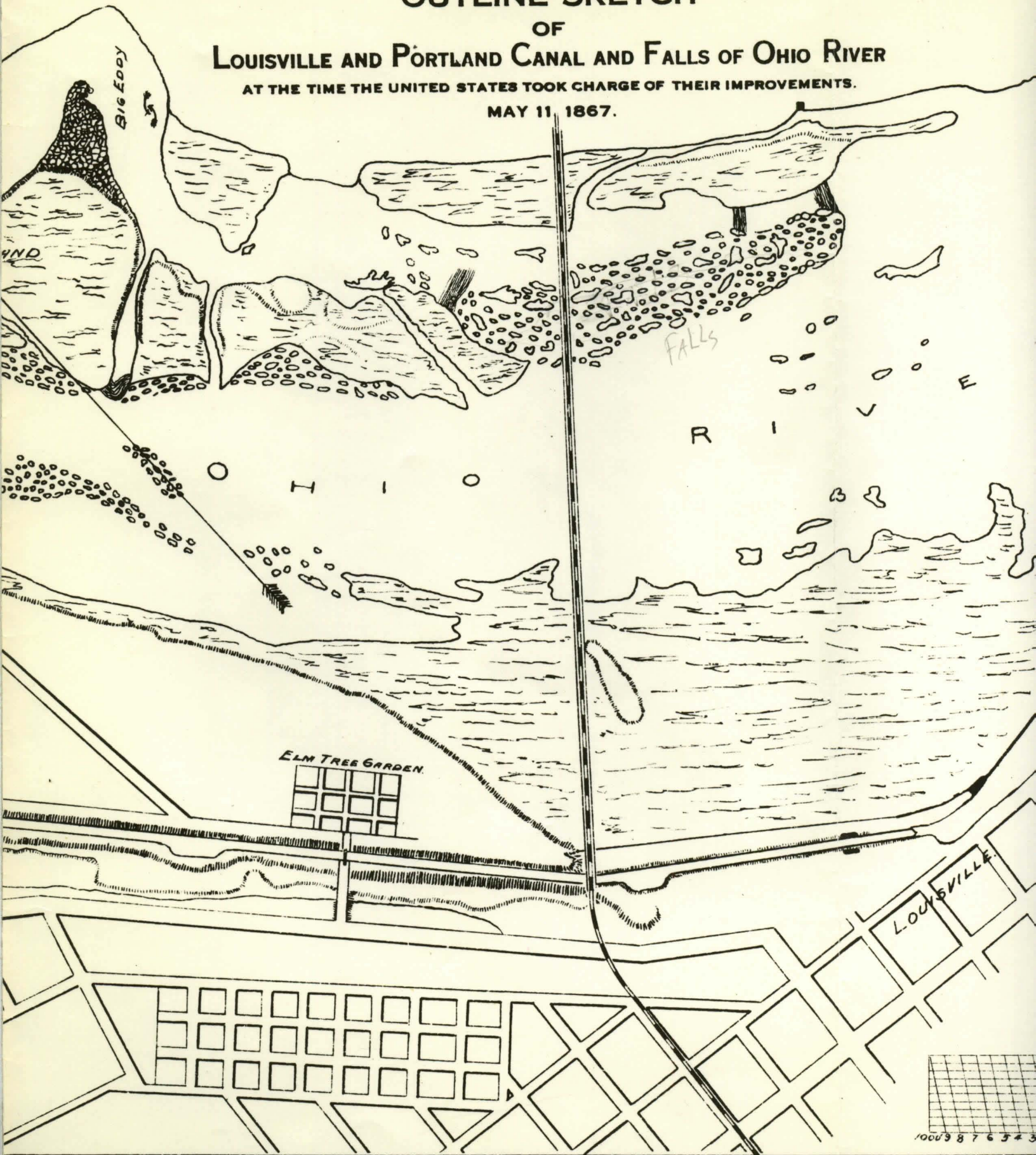
OUTLINE SKETCH

OF

LOUISVILLE AND PORTLAND CANAL AND FALLS OF OHIO RIVER

AT THE TIME THE UNITED STATES TOOK CHARGE OF THEIR IMPROVEMENTS.

MAY 11 1867.



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PLATE II

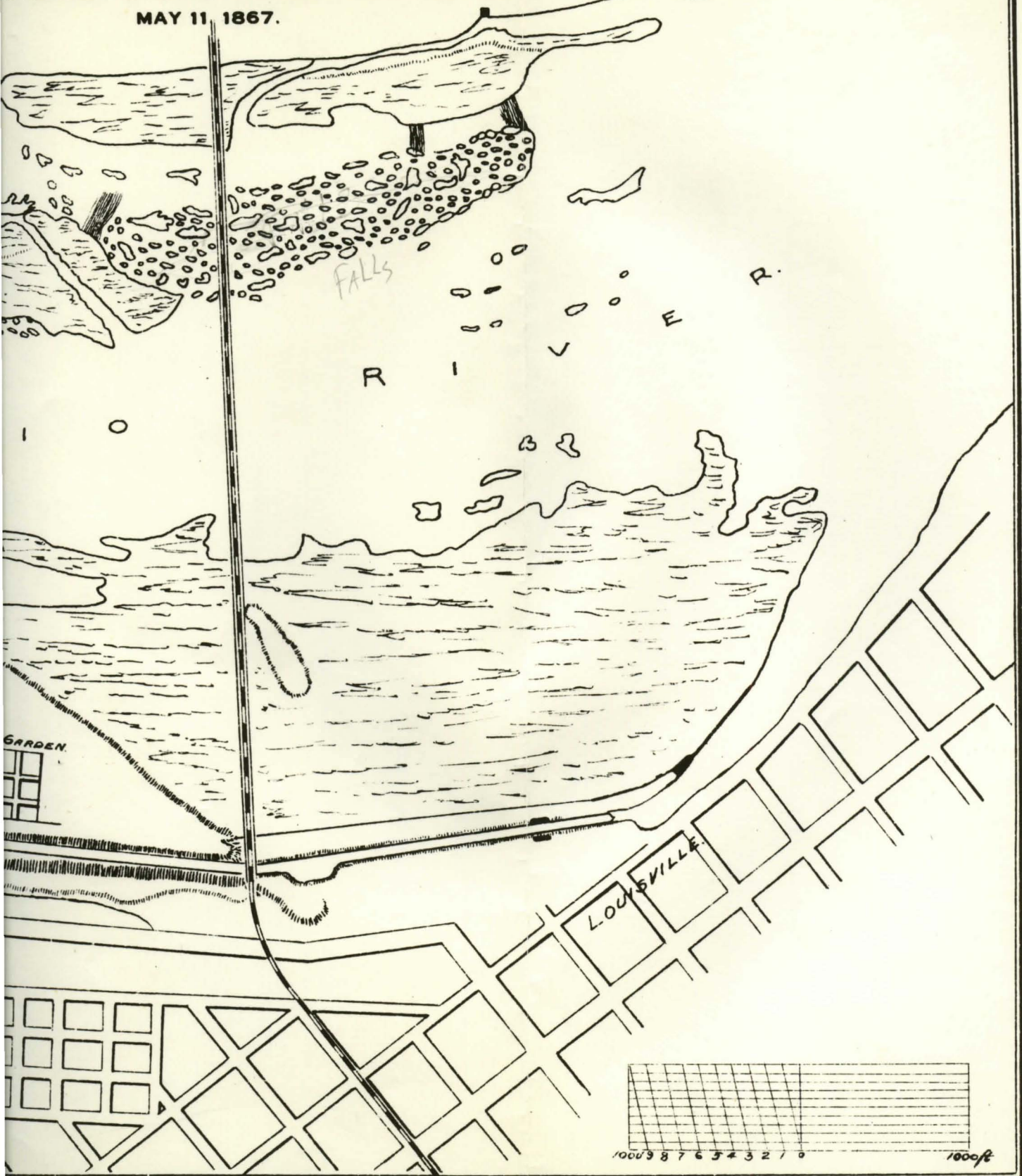
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## CHAPTER V

From March, 1867, when a joint resolution of the Congress of the United States provided for a survey of the Falls of the Ohio, to July 1, 1880, when the Louisville and Portland Canal was made toll free by the Congress of the United States.

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On March 29, 1867, Congress passed a "joint resolution providing for the necessary surveys for a ship canal around the Falls of the Ohio River, for military, naval, and commercial purposes." It authorized and directed the Secretary of War to cause surveys, with plans and estimates of cost, to be made by an officer of Engineers, for a ship-canal around the Falls of the Ohio River, on the Indiana side thereof, of suitable location and dimensions, for military, naval, and commercial purposes, and also to cause said officer to estimate the expense of completing the Louisville and Portland Canal, on the Kentucky side of said falls, according to the plan on which the said company was then progressing with said work.<sup>1</sup>

Accordingly, Major G. Weitzel of the United States Army Engineers was charged with the execution of the work. He was furnished with copies of all

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1. Laws of the United States, op. cit., V.I, p. 167.

previous reports on the subject, but with the understanding that the information contained in them should not supersede the surveys required by the joint resolution.

Operations were commenced in July, 1867, and a remarkably favorable season was had for the work. The Indiana side, the river bed, and the Louisville and Portland canal and vicinity were surveyed in that order. While these operations were in progress, all the information available was obtained in order to determine the proper dimensions for a canal which would be suitable for commercial purposes, with the assumption that such a canal would, at the same time, be suitable for military and naval purposes.

Two different opinions were found on this subject; some believing that locks the size of the new ones on the Louisville and Portland canal extension, which were three hundred and fifty feet long and eighty feet wide, would be large enough, because, in the future, no more boats larger than these dimensions would be built, and that the bulk of the carrying trade on the river would be done by barges, drawn by two-boats.

Many of the practical steam boat men, however, were of the opinion that the locks of a new canal should be larger, contending that the future of the carrying trade would be either by boats built very wide, so as to carry a heavy load with a light draught of water, or in fleets of barges, drawn by tow-boats; so that, in either case, the locks must be large to accomodate the large boat, or to take in at a time the whole tow, and thus save the time and expense of breaking up a tow to get through the canal and putting it together again below. Besides, they said that the size of the canal fixes the size of the boats, and if the locks were larger the boats would be built larger, because, up to a certain limit, a larger boat can make a trip in shorter time, with a larger load, than a smaller boat, and with equal expenditure.<sup>1</sup>

Major Weitzel was of the opinion that the locks of the new canal should be at least one hundred feet wide and four hundred feet long. The canal itself should be one hundred and twenty feet wide, and should have six feet of water over the mitre sill of the guard gate at the lowest stage.<sup>2</sup>

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1. There were, at that time, at least two boats running on the river that could not be passed through the new locks of the canal extension.
  2. Executive Document No. 181, 40th Congress, 2nd Session, p. 6.

As mentioned in the previous chapter, during the progress of the work on the canal extension, as the price of labor and material rose, on account of the recent Civil War, the directors, with a laudable desire to build at least a "working" canal with the means at their disposal, compelled the engineer to make several changes in his plans, the most important of which was reducing the width of the canal to 90 feet. According to Major Weitzel, considering the width of the locks, this was a good change.

To report how much more money would be necessary to complete the branch of the Louisville and Portland canal, was one of the duties assigned the Major by the joint resolution. Accordingly, he reported that to complete the work as modified by the directors would cost \$1,178,000. To complete it according to the original plan would cost \$1,294,000, and to complete it as he thought it should be, with the river bank raised to a plane of four feet higher than the highest known flood, and a fall of one foot per mile, would cost \$1,394,000.

In order to understand positively on what terms the government could get the ownership of the canal, Major Weitzel addressed a letter on the 13th

of December, 1867, to the president of the company, the Honorable James Guthrie, to which he received the following reply:

The president and directors of the Louisville and Portland Canal Company have to say that they consider themselves as trustees of the stockholders of the company; the objects of the trust being to cause said canal to be so enlarged and improved as to make it sufficient for the requirements of the commerce of the Ohio river, and finally to make it a free canal; and that having no personal objects to subserve, they would willingly surrender to the government of the United States all the rights, privileges, assets, etc., of the company, provided the government shall purchase the five shares of stock which they hold, and assume the indebtedness of the company incurred in the prosecution of the canal enlargement, and also assume the duties of the trust which they hold to be the completion of said work of enlargement, as contemplated.

The bonded indebtedness of the company is as follows:

370 bonds due in 1871.....	\$370,000
399 bonds due in 1876.....	399,000
398 bonds due in 1881.....	398,000
400 bonds due in 1886.....	400,000
	<u>\$1,567,000</u>

The five shares of stock are \$100 each.

There is on hand, to the credit of the sinking fund, a balance of \$217,453.70.

Very respectfully,

James Guthrie, Pres.  
J. H. Roher, Sec'ty.

Major Weitzel concluded his report on the canal with an appeal to the government to take over and complete this important work as soon as possible. He said that

the amount, in addition to the cash the company has on hand, required to be appropriated to make this a complete and perfect canal, would be \$1,174,000, and \$1,567,000 in bonds bearing a six per cent currency interest, a less rate than any public security at the present time bears.

In pointing out that the Western part of the United States deserved the expenditure of the amount of money called for to complete the work, the Major continued:

The Ohio River with its branches drains the whole of parts of ten States of the Union; among them the wealthiest and most populous. It is one of the most important in a system giving 18,000 miles of navigable rivers.

The States lying on the banks of the Ohio and Mississippi rivers, fourteen in number, had, by the census of 1860, a population of 16,909,494, or more than half the entire population of the United States.

These rivers drain an area 1,785,267 square miles, more than half of the square miles in the United States, and the valuation of property in these States shows one-half of the valuation of the United States; showing very conclusively that these States pay more than half the taxes, work more than half on



the improved land, have the majority of the population, and also the majority of the land to develop, of the whole United States.

The proportion of the whole product afforded by these fourteen States we speak for may be judged by the returns of their produce gathered from the census of 1860, and compared with the whole United States, as follows:

	The fourteen States	The whole United States
Corn.....bushels	634,454,375	838,792,740
Wheat..... "	126,930,730	173,104,924
Oats..... "	103,995,461	172,643,185
Tobacco.....pounds	345,400,759	434,208,461
Sugar..... "	222,636,000	230,982,000
Cotton..... "	1,079,799,600	2,154,820,800
Wool..... "	31,277,839	60,264,913
Hay..... tons	9,297,743	19,083,896
Butter.....pounds	239,601,405	459,689,372
Hemp..... tons	69,470	74,493
Hogs.....	22,225,766	33,512,867
Bituminous coal-bushels	3,247,264,425	3,621,923,165
Horses and asses	4,804,634	7,400,322
Cattle.....	12,517,392	25,616,019
Sheep.....	11,973,315	22,471,275

Showing for the river States a great preponderance in the products of the whole country.

If these statistics are not sufficient, I will add that it too often happens, as it did last fall, that the people along the greater part of these rivers have to pay fifty cents, or more, a bushel for coal, when, with an improved river it would only be worth sixteen cents; that many thousands suffer cold, and many are thrown out of employment by manufacturers stopping for want, or the high price, of coal, and that many thousand men engaged in the river trade are annually thrown out of employment because this river is not improved. I am confident that the amount of money annually lost in this way to the people along these rivers would pay the interest on the sum required to do the work, and have so large a surplus for a sinking fund, as in a few years, would eliminate the whole amount.<sup>1</sup>

1. Report of the Secretary of War, February 20, 1868, p. 7.

On July 25, 1868, an appropriation of \$85,000 was made by Congress for improvements at the falls of the Ohio. The Chief of Engineers, by letter dated July 31, 1868, informed Weitzel that this sum was available for expenditure during that working season, if practicable, towards the construction of the two dams proposed by him for the improvement of the falls of the Ohio, and Weitzel was directed to proceed at once to carry out the work thus provided for. "If it were essential to expedite the work, he might do it by hired labor and purchase of material in open market, and also use the telegraph."

On August 27, 1868, the Chief of Engineers wrote approving Weitzel's recommendation that a crib-dam be substituted for the one of masonry proposed to be built across the crest of the falls of the Ohio.

Weitzel was cautioned to bear in mind that, inasmuch as the act of 1868 provided that none of the expenditures should be applied to any works not mentioned in a previous bill of June, 1868, no portion of the allotment could be expended on the Indiana side of the river, or in view of such work at any future day, but was solely applicable to work incident to the extension of the Louisville and Portland Canal.

In his annual report for the fiscal year ending June 30, 1869, Weitzel says:

I made no arrangement to commence work on the lower dam, because the amount of money allotted would not allow it, and also because its construction before the actual extension of the Louisville and Portland Canal would be very injudicious. The construction of the upper dam before such extension is completed will be an obstruction to navigation at certain stages for boats too large to pass through the old locks, which are still in use, and is another reason, in addition to the very many already given by me in my previous reports, and by officers who have treated this subject before me, why the proper amount of money necessary to enlarge the body of the old canal, and complete the branch to the new locks, should at once be appropriated.<sup>1</sup>

A letter from the Chief of Engineers, of May 12, 1869, informed Weitzel that \$180,000 additional had been allotted by the Secretary of War to the improvement of the falls of the Ohio, under the act of April 10, 1869, and that there was no restriction in the manner in which the appropriation was to be expended.

He was subsequently informed that 1 per cent of this allotment had been deducted, leaving \$178,200. Weitzel therefore said in his annual report above quoted:

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1. Report of the Chief of Engineers, U.S. Army, 1869,  
p. 778.

I had already come to the conclusion, long before receiving this authority, and I was sustained in my conclusions by the great experience of the directors of the Louisville and Portland Canal, that the most important thing was first to enlarge and improve the entrance to the head of the canal as far as the upper guard-gates, and whatever balance there might be left to employ in opening the new locks into the main trunk of the canal.

It seems that after the first allotment was made, it occurred to the authorities in Washington that under an organic law of the United States, none of it could be legally expended on the canal, because the canal had not been purchased, nor had the legislature of Kentucky ceded unconditional jurisdiction. After the act of April 10, 1869, was passed, the Chief of Engineers, General Humphreys, in order to secure a portion of it for this work, addressed a letter to General John A. Rawlins, Secretary of War. After presenting the claim of this work for a portion of the appropriation, he says:

After a careful examination and consideration of the whole subject, I am decidedly of the opinion that an allotment of some portion of the recent appropriation for rivers and harbors to the enlargement of the canal may be properly made, and I therefore recommend it.<sup>1</sup>

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1. Report of the Chief of Engineers, 1869, p. 277.

This letter and the whole subject were considered and discussed in Cabinet meeting, and General Humphrey's opinion was approved and adopted by the Administration. Thus a danger which seemed at one time to threaten the very life of the work at the start, was removed.

In the summer of 1869 the merchants, manufacturers, and steamboat owners of the Ohio valley, seeing the slow progress of the work, owing to the small amounts allotted to it, again took hold of this matter with "great earnestness and determination." As a result of their efforts, the Rivers and Harbors Act of July 11, 1870, appropriated \$250,000 for it. By joining hands with those interested in the commerce of the Upper Mississippi, a special act appropriating \$200,000 was passed at the next session, and approved January 18, 1871. The Rivers and Harbors Act of March 3, 1871, appropriated \$250,000. With the sums thus allotted and appropriated, the work was pushed as vigorously as possible, and on February 26, 1872, the new locks were opened to commerce, and the largest class of boats could pass through the canal. A great deal, however, remained to be done to complete

it according to Major Weitzel's original plans.

On March 28, 1872, the following joint resolution was passed by the Kentucky legislature:

Whereas all the stock in the Louisville and Portland Canal belongs to the United States Government except five shares owned by the directors of the company, and said directors, under the authority of the legislature of Kentucky and the United States, executed a mortgage to secure bonds named in said mortgage, some of which are out and unpaid, and said canal company may owe other debts; and

Whereas it is right and proper that the Government of the United States should assume the control and management of said canal: Therefore be it

Resolved by the general assembly of Kentucky, That the president and directors of the Louisville and Portland Canal Company are hereby authorized and directed to surrender the said canal and all the property connected therewith to the Government of the United States, upon the following terms and conditions:

1. That the Government of the United States shall not levy tolls on said canal, except such as shall be necessary to keep the same in repair, pay all necessary superintendence, custody, and expenses, and make all necessary improvements.

2. That the city of Louisville shall have the right to throw bridges over the canal at such points as said city shall deem proper: Provided always, That said bridges shall be so located as not to interfere with the use of the canal, and so constructed as not to interfere with its navigation.

3. That the title and possession of the United States of said canal shall not interfere with the right of the state to serve criminal and civil processes, or with the State's general police power over the territory covered by said canal and its appendages.

4. And further, that the city of Louisville shall at all times have the right of drainage into said canal: Provided, That the connections between the drains and the canal shall be made upon the plan to keep out mud and garbage.

5. That the use of the water power of the canal shall be guaranteed forever to the actual owners of the property contiguous to said canal, its branches and dams, subject to such restrictions and regulations as may be made by the Secretary of the Department of the United States Government which may have charge of said canal.

6. That the Government of the United States shall, before such surrender, discharge all the debts due by said canal company, and purchase the stock of said directors.<sup>1</sup>

The Rivers and Harbors Act of June 10, 1872 appropriated \$300,000 for continuing the work, and directed the Secretary of War to report to Congress at its next session, or sooner, if practicable, the condition of the canal, and the provisions necessary to relieve the same from incumbrance, with a view to such legislation as would render the same

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1. Kentucky Statutes, 1872, p. 342.

free to commerce at the earliest practicable period, subject only to such tolls as may be necessary for the superintendence and repair thereof, "which shall not, after the passage of this act, exceed five cents per ton."

By letter from the Chief of Engineers, June 19, 1872, Major Weitzel was directed to give official notice to the president and directors of the canal company of the provisions of the last clause of this item, relating to tolls. This he did, and received a reply from Mr. J. F. Speed, president of the company, dated June 27, 1872, that the company would do nothing that might be construed into an acknowledgment that the government could fix the rate of tolls for the use of the canal until the joint resolution of the Kentucky legislature, approved March, 1872, had been complied with by the United States; that the company had been advised that a permission to expend the \$300,000 appropriated by the above item in continuing the work on the canal might be regarded as an acknowledgment of a right in the government to fix the tolls at five cents per ton, and that therefore justice to the creditors of the company and duty to the State compelled them to decline the appropriation



and refuse the use of the canal for its expenditure.

Mr. Speed subsequently wrote, in reply to another letter from Major Weitzel, that the whole appropriation was declined, and that no part of it could be expended on any property of the company. Previous to this time, states Weitzel, the directors and he had worked in perfect harmony. They had always met all of his requests with courtesy, and had granted them as speedily as the duties of their trust would warrant.

This matter resulted in a lengthy period of correspondence between Weitzel and the president of the canal company. Weitzel determined to go on with the work under the appropriation, and requested that the district attorney (Col. G. C. Wharton) be ordered to act as his counsel, and prevent the directors from interfering.

Through the good sense of the Honorable James Speed, says Weitzel, the counsel for the directors, Colonel Wharton, and their associate counsel, it was agreed, after a little preliminary legal skirmishing, to bring the case at once before a judge of the Supreme Court of the United States for decision. The case was tried before Associate Justice Miller, of

the United States Supreme Court. He granted an injunction preventing the directors from interfering with the work, but decided that the directors alone, at that time, had the power of regulating the tolls.

This judicial action was satisfactory to all, and removed another danger which threatened the completion of the work.<sup>1</sup>

The Rivers and Harbors Act of March 3, 1873, appropriated \$100,000 for the completion of the canal, and the Secretary of the Treasury was authorized and directed to assume, on the behalf of the United States, the control and management of said canal, in conformity with the terms of the joint resolution of the legislature of the State of Kentucky of March 28, 1872, at such time, and in such manner as, in his judgment, the interests of the United States and the commerce thereof might require; and the sum of money necessary to enable the Secretary of the Treasury to carry this provision into effect was appropriated. This item also contained a proviso that when the United States assumed control of the canal the tolls thereon should be reduced on vessels propelled by steam to 25 cents per ton, and on all other vessels in proportion.<sup>2</sup>

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1. Report of the Chief of Engineers, 1872, p. 448.

2. Laws of the United States, op. cit., V.I, p. 215.

The joint resolution of the Kentucky Legislature of March 28, 1872, above referred to, and given in full on pages eight and nine of this chapter, was passed at the instance of parties interested in the western commerce. Its object was to enable the government to make the canal free by assuming the debt without being compelled to await the time when the enlargement was completed.

The following act providing for the payment of the bonds of the Louisville and Portland Canal Company and taking control of the canal, was passed by Congress at its next session, and approved May 11, 1874:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the appropriations made by the act approved March 3, 1873, entitled "An act making appropriations for the repair, preservation, and completion of certain public works on rivers and harbors, and for other purposes," for the payment of the debts of the Louisville and Portland Canal Company, are hereby continued in full force, and are made permanently applicable to the payment of the debts of the said Louisville and Portland Canal Company; and so much as may be necessary shall be applied to the payment of the interest as it accrues, and the principal of the outstanding bonds of said company as they mature: Provided however, That the Secretary of the Treasury may purchase and pay for any of said bonds at

the market price, not above par, whenever he deems it for the interest of the United States.

Sec. 2. That after thirty days from the passage of this act the Secretary of War is hereby authorized and directed to take possession of the said Louisville and Portland Canal, and all the property, real and personal, of said company, as provided for by the legislature of Kentucky..... Jurisdiction by the United States shall be subject to the mortgage lien on said property, and the holders of the bonds issued under it... The Secretary of the Treasury is authorized to pay the directors of said company for the stock held by them..... and said Secretary is directed to give public notice in such a manner as will best effect the purpose, to all persons and corporations having debts of any nature against the canal company, except the bonded debt thereof, to present them to him on or before the first day of July, 1875.

Section three of the act provided for the abolishment of all tolls except those necessary for current expenses, and repair, and for the year 1874, they were set at ten cents per ton on steamboats, and five cents per ton on others. The Secretary of the Treasury was made responsible for reporting the affairs of the canal.

Section four laid down specific actions which were to be taken if at any time it became necessary to enforce the lien of the mortgage on the canal property for the benefit of the bondholders.<sup>1</sup>

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1. Laws of the United States, op. cit., V.I, p.222.

In accordance with the provisions of the above act, the War Department issued a special order, of which the following is a copy:

To carry out the provisions of the second and third sections of the act of Congress approved May 11, 1874, "providing for the payment of the bonds of the Louisville and Portland Canal Company," Major Godfrey Weitzel, Corps of Engineers, is appointed to proceed to Louisville, Kentucky, and confer with the president and directors of said company, with a view to making the necessary arrangements for receiving and taking possession of the canal" and all the property, real and personal, of said company, as the property of the United States."

Major Weitzel is empowered to agree with the canal company upon some day subsequent to the thirty days named in the act for the transfer of the canal to the United States, and is authorized to take charge of the same when it shall have been delivered into the possession of the United States. He will state what employees are necessary for the carrying on properly of the operations of the canal within the provisions of the act, and will also report at an early day the result of his conference with the canal company, and submit to the Chief of Engineers, for the approval of the Secretary of War, such recommendations and suggestions as may in his judgment be necessary to a proper execution of the provisions of the act and to the protection of the interests of all concerned. He is also authorized to employ, temporarily, such persons as may be necessary, in order to avoid any interruption of or obstruction to the business of the canal.<sup>1</sup>

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1. Engineers Report of January 1, 1875, p. 777.

Weitzel reported that on Tuesday the 9th of June 1874, he met the directors of the Louisville and Portland Canal at their office in Louisville, Kentucky, and that after a brief conference it was agreed that an inventory of property should be taken by the representatives of the United States and their company, and the invoices and receipts should be signed on the following day and the transfer made, to take place at the earliest moment the law allowed - i.e., Wednesday night, midnight.

This was done, and on Thursday morning, shortly after midnight, the first boat passed through under the rates of toll prescribed by the new law, and thus was accomplished a thing which the people of the West had been endeavouring to effect during the preceding thirty-four years.<sup>1</sup>

The Rivers and Harbors Act of March 3, 1875, appropriated \$100,000 to complete the canal according to the original project of Major Weitzel.

In March, 1876, Captain Mackenzie of the Engineer's office at Louisville reported that the canal management had had much trouble within the last few days with tows, and that several unnecessary

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1. Engineers Report of January 1, 1875, p. 778.

delays had been the consequence. The regulations of the canal and the orders of the superintendent had been violated, and there was no way to prevent recurrences of the same state of affairs under the existing rules and regulations.

Tow-boats frequently, after having brought their tows to the locks, would run back and go over the falls, thereby causing much delay and trouble. In order to remedy the situation, Captain Mackenzie recommended that the following changes be made in the rates of tolls:

1. Steamboats bringing tows to the locks and leaving them for the purpose of running over the falls and taking charge of tows below the locks, shall be charged the same rate for using the canal as if they had passed through the locks.

2. For moving flats, boats, etc., through locks, \$5 per boat in addition to the tolls. These charges are exceedingly just, and are recommended for the purpose of compelling steamboats to remain with their tows and provide a sufficient crew for managing them.

The recommendation for a change in the tolls was approved by the Secretary of War.

On February 27, 1880, the House Committee on Railways and Canals, to whom was referred a bill

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1. Executive Document, No. 43, 44th Congress,  
1st Session, p. 1.

to abolish all tolls on the Louisville and Portland Canal, having had the same under consideration, reported as follows:

The Louisville and Portland Canal is the connecting link in the great chain of commerce between the cities of New York, Philadelphia, Baltimore, and other places east of the Alleghanies, and the cities of Pittsburgh, Wheeling, Cincinnati, Louisville, Saint Louis, and other important points west and northwest of the Appalachian Range. It is the lock and key to the whole system of river navigation from the head-waters of the Ohio to the Gulf of Mexico. Over three thousand boats and barges pass through its locks in the descending and ascending navigation of the Ohio River. The number of tons carried by these boats during the past year was 999,610. This immense tonnage will, it is believed, in the near future attain even more gigantic proportions.

Up to the 11th of June, 1874, the tollage paid by all vessels propelled by steam was fifty cents per ton. From the year 1831, when the canal was first opened for business, to 1872, the tolls received at this point amounted to \$5,157,247. Since the government assumed control the tolls have been reduced to one-fifth of the former amount. But, even with this reduction, over \$300,000 has been collected, thus swelling the grand total which the producers and shippers of twelve or fourteen States of our country have paid to pass an obstruction of less than two miles on one of our national highways to over five and one-half millions of dollars.

The bill under consideration proposes that at the close of the present fiscal year, the tolls now collected by the government shall cease. Your committee report that such a result is in accord with the spirit, if not the letter, of former treaties and legislation both by the State



of Kentucky, and by the United States. The treaty of Paris, negotiated in 1783; the treaty with Spain, negotiated in 1795; the ordinance of 1797, and many subsequent acts of Congress, provide for the absolute freedom of the Mississippi River and its tributaries, and dedicate them to the world as great national highways, to be kept forever free from any toll, tax, or duty of any kind whatever.

These various treaties, reports, acts, and official declarations indicate that for nearly half a century it has been the desire and intent of the government to secure the free navigation of the Ohio at this point. But whatever be the meaning of former treaties and resolutions, your committee are of the opinion that the time has now arrived when, as a matter of right as well as of policy, every restriction or tax should be removed, and this canal be declared free to the whole world.

The "right of way," once said a great statesman, "is the right of the million."

The sovereign holds it in trust, and can exercise it only for their benefit, and has no right to make a revenue, or permit a revenue to be made out of it. Such a course must engender the worst oppression and the worst corruptions, and soon realize the view of the worst governments--taxation on all we consume--which will allow nothing to go to or from the markets without tribute to the state.

Your committee find that in every other instance except the Louisville and Portland Canal, this great popular right has been recognized and respected. At the Eads jetties, at the harbor of New York, at the canal uniting the upper and lower rapids of the Mississippi River, and at various other points, vast sums of money, amounting to

hundreds of millions, have been expended. From none of these works, of which the government is the sole owner, has any toll or tax ever been demanded, and yet hardly one of them is of more importance, or more national in its character, than this canal.

Your committee see no reason why the people of the Ohio and Mississippi valleys should be deprived of the benefits of that policy which has been so fully pursued, to the advantage of commerce, at every other point in the Union, and therefore report back the bill, and respectfully recommend that it be adopted.<sup>1</sup>

As a consequence of the above report, Congress, on May 18, 1880, passed the following act:

That after the first day of July, 1880, no tolls shall be charged or collected at the Louisville and Portland Canal, but the Secretary of War shall be authorized to draw his warrant from time to time upon The Secretary of the Greasury to pay the actual expenses of operating and keeping said canal in repair.<sup>2</sup>

During the period from June 11, 1874, when the government took control of the canal, to midnight July 1, 1880, when all tolls were abolished, the government receipts on the canal amounted to \$417,069.38, the expenditures to \$386,814.02, leaving a balance on hand of \$30,255.36, which was later expended on

1. House of Representatives, Report No. 348, 46 Congress, 2nd Session; pp. 1-3.
2. Laws of the United States, op. cit., V.I, p. 306.

improvements. The largest single work which was done under this head was to change the old locks from three chambers to two, so that the capacity of these old locks was increased to boats 269 feet long. The cost then of the superintendence, management, and ordinary repair of the canal during the six years and twenty days while under government control was about \$267,000, or at the rate of about \$44,000, per year. The former management had estimated it at \$70,000 per annum. A little less than one-third of the annual expense of operating the canal was consumed in keeping the canal and locks clear of the mud and silt which high waters deposited in them.

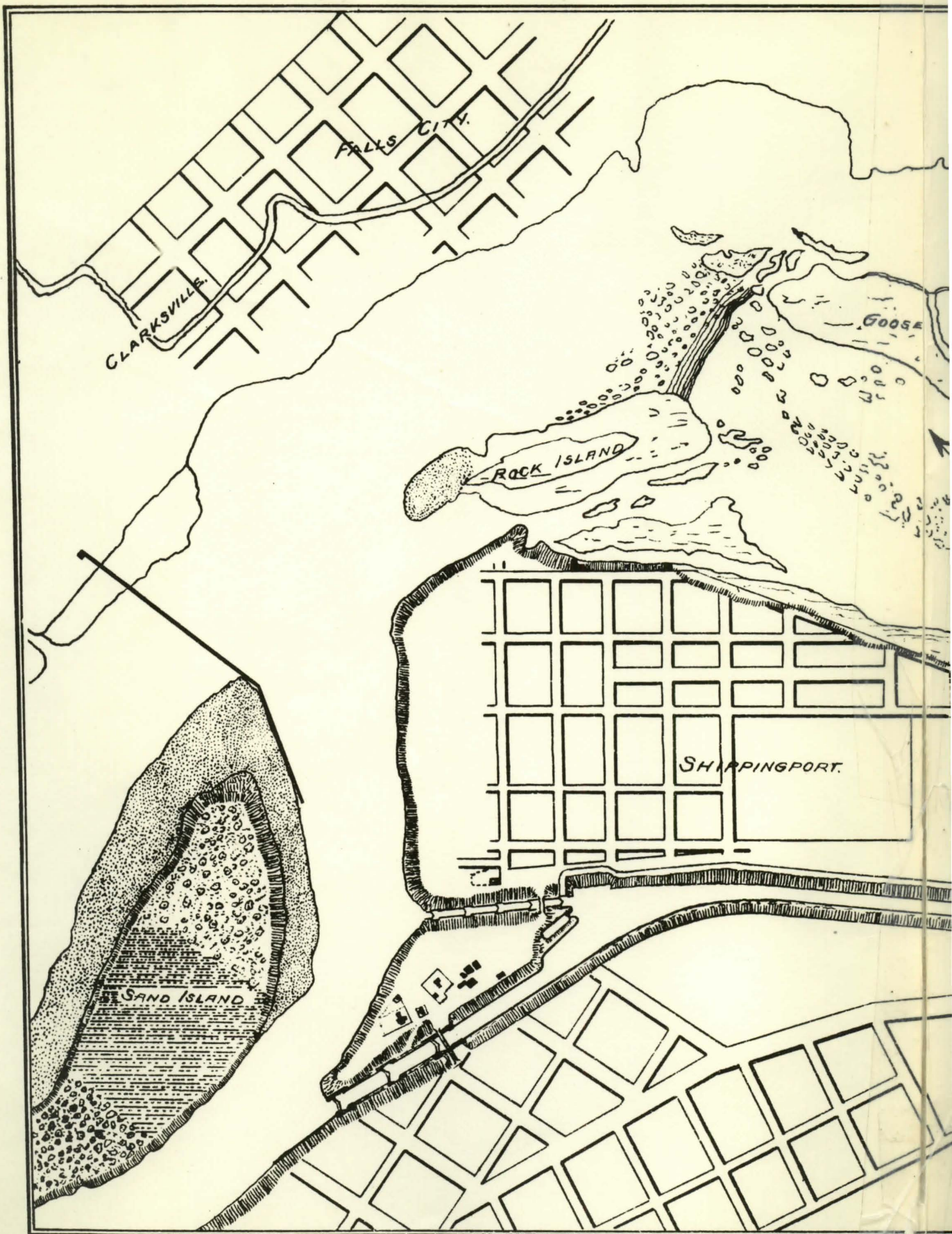




PLATE III

OUTLINE SKETCH  
OF  
LOUISVILLE AND PORTLAND CANAL AND FALLS OF OHIO RIVER  
AT CLOSE OF FISCAL YEAR.  
1878.

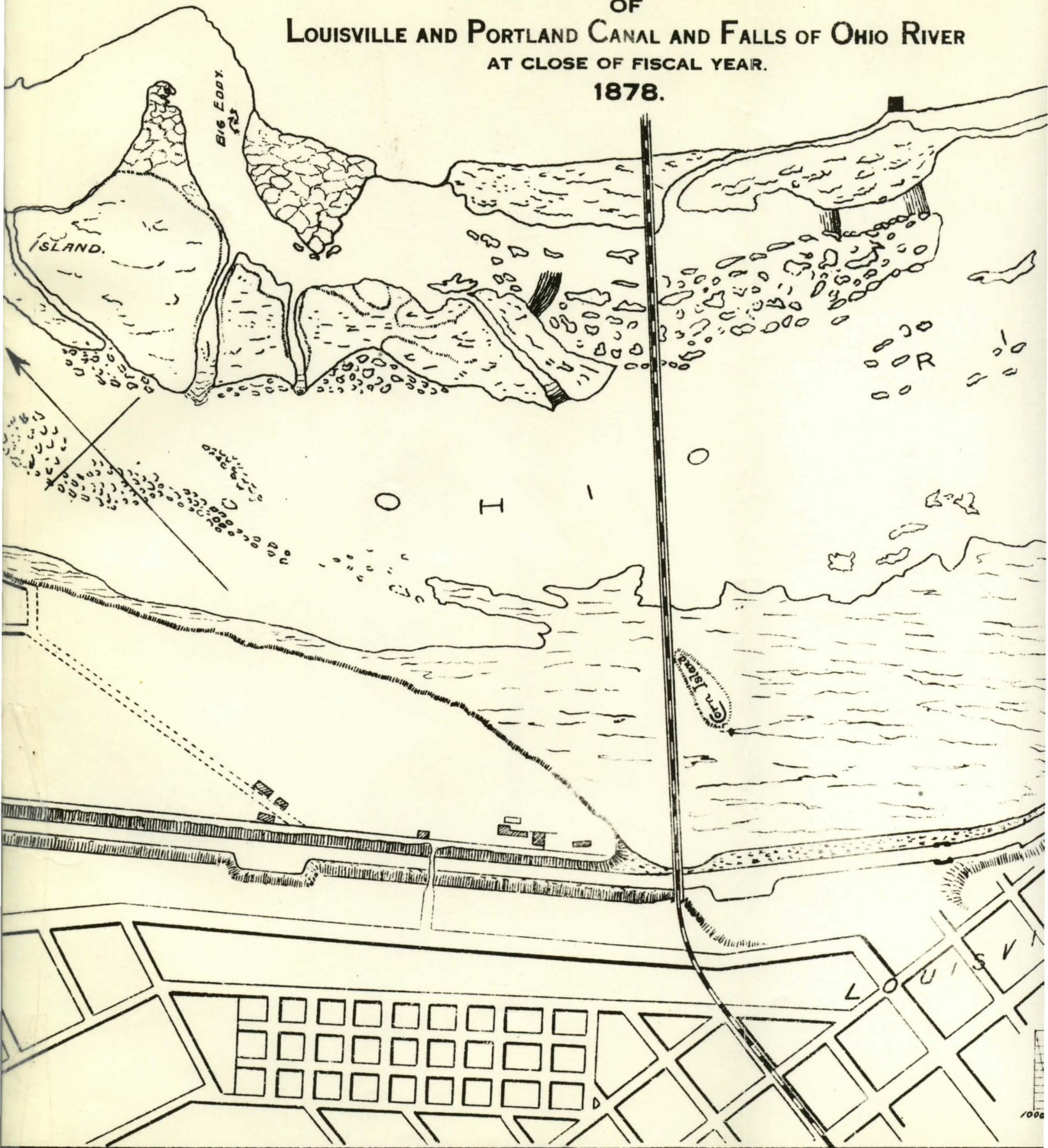




PLATE III

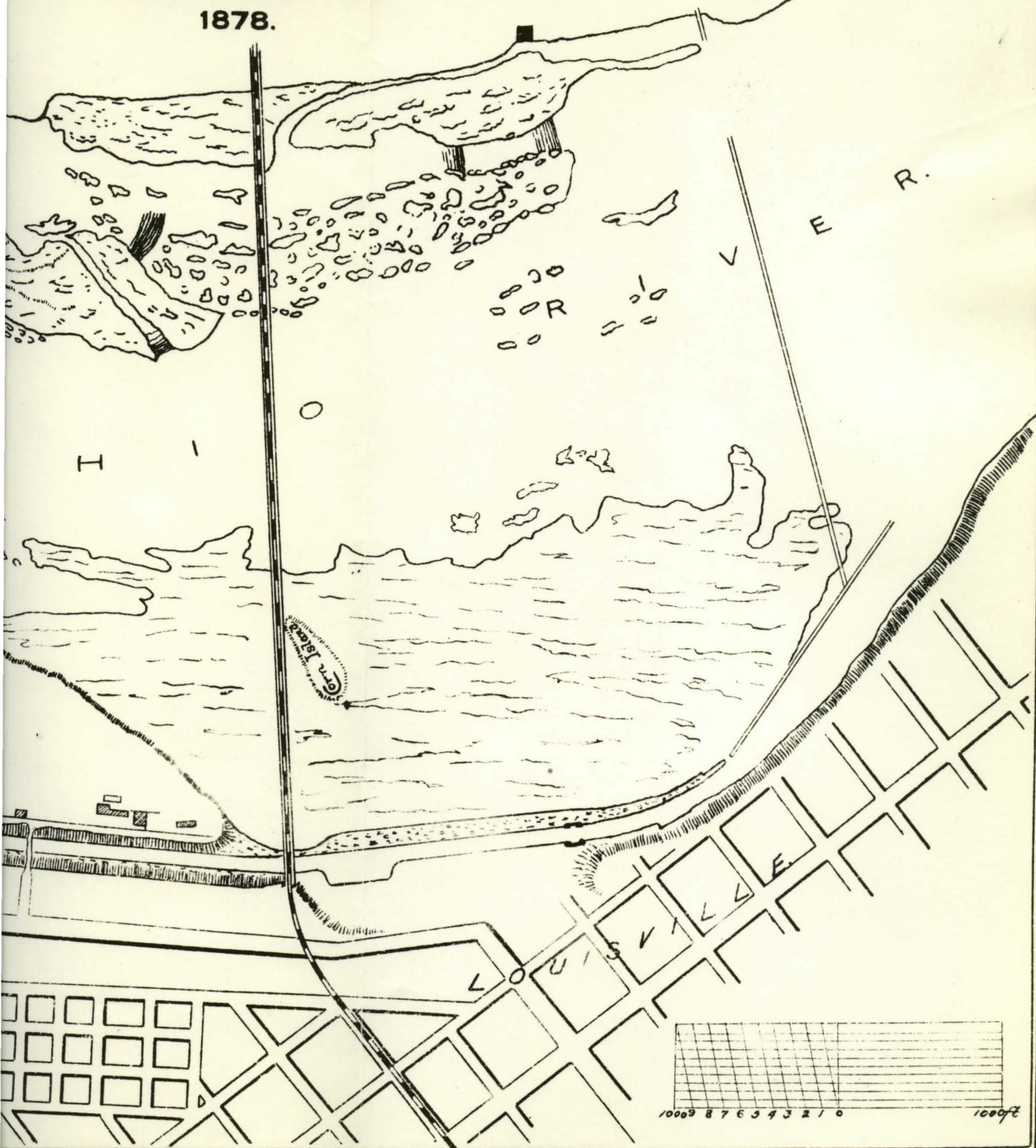
## OUTLINE SKETCH

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**AT CLOSE OF FISCAL YEAR.**

**1878.**



## CHAPTER VI

From 1880 when the canal was made free of tolls, to the present. Including a brief description of the Hydro-Electric Plant.

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From 1880 when the canal was made free of tolls, to the present. Including a brief description of the Hydro-Electric Plant.

In July, 1880, shortly after the canal had been made toll free by act of the Congress of the United States, Major H. G. Wright, Chief of Engineers, made a request to the Secretary of War for \$5,000 "for operating and keeping in repair the Louisville and Portland Canal." The Major based his request on the concluding part of the act to abolish tolls at the canal, which gave authority to the Secretary of War to draw his warrant from time to time upon the Secretary of the Treasury to pay the actual expenses of operating and keeping said canal in repair. In reply, the Secretary of War informed Major Wright that upon an informal inquiry to ascertain the technical title of the appropriation made by the above mentioned act, it had been suggested that the act per se made no appropriation. The Secretary further called the Major's attention to the river and harbor bill approved June 14, 1880, which stated that the balance in hand after the



payment of any existing liability, collected previously as tolls on the Louisville and Portland Canal, or which might later be so collected prior to the passage of an act to make said canal free to the public, was thereby authorized to be expended for its improvement. Such expenditure however was not to exceed \$60,000.

After a good deal of correspondence about the matter, the Secretary of the Treasury, in August, 1880, addressed a letter to the First Comptroller of the Treasury, asking his opinion as to whether an appropriation was authorized by the act of May 18, 1880, for operating and keeping in repair the Louisville and Portland Canal. The Comptroller replied that he had considered the subject with great care, and was of the opinion that the act referred to did not make an appropriation for operating and keeping said canal in repair. The Comptroller said, in explanation of his decision, that if the act made an appropriation at all, it was a "permanent specific appropriation, indefinite as to time, and unlimited as to amount, and as to such appropriations, the rule of

construction must necessarily be, that if they exist by inference at all, the language from which it is drawn must be clear and conclusive. This being essential to preserve the right of Congress to control appropriations. The Comptroller then cited the case of *Madre vs. Felton*, to show that permanent indefinite appropriations, as a general rule, were against the spirit of the Constitution. As a concluding reason against holding that the act of May 18 carried an appropriation, the Comptroller said that the act of June 14, authorized an expenditure of a certain "balance," limiting it so as not to exceed \$60,000. This would have been unnecessary if the act of May 18 had made an appropriation. "It is true," he says, "the act of May 18 is prior in date to that of June 14, and the former evidently was passed in contemplation of an appropriation thereafter to be made, or of that provided for by the act of June 14, which was the first introduced in Congress, and to which that of May 18 referred as supplying the money on which the Secretary of War was to draw his warrant."<sup>1</sup>

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1. Executive Document No. 17, U. S. Senate, 46th Congress, 3d Session, pp. 1-12.

The Comptroller stated that he realized the importance to the interests of commerce that the canal be kept in repair, but that if unexpectedly, the funds devoted to that purpose by Congress proved inadequate, it was not the province of executive officers to interpose a construction of statutes which might introduce infinite danger by way of precedent in the future.

In January, 1882, the Senate of the United States called for a special report on the improvements still needed at the falls of the Ohio to serve the interests of the commerce of the Ohio River. Accordingly, the report was made on February 10, 1882, by Major Weitzel, who listed the following projects as work necessary to be done.

(a) About 1,300 feet in length additional of the permanent dam, as designed and partially constructed across the Ohio River on the crest of the falls should be converted into movable dams.

(b) The entrance to the head of the canal should be very much enlarged.

(c) Additional canal accommodations around or over these obstructions should be provided.

(d) That portion of the north bank of the existing canal which has thus far been untouched by the work of enlargement should be rectified and new side walls built.

(e) A set of gates should be provided in the branch canal just above the new locks for high-water lockage.

(f) A new lock should be built with a chamber as wide as the present new locks.

(g) A new dry-dock should be constructed.

(h) The basin above the head of the present locks should be enlarged.

In giving his reasons why the above improvements should be completed as soon as possible, the Major says:

The Ohio River Basin, according to some bulletins relating to the census of 1880 which I have been able to see, still maintains its supremacy over any other portions of the great Mississippi Basin. It still yields enormous quantities of iron, steel, coal, petroleum, wheat, corn, oats, salt, and tobacco, and its numerous manufacturing interests are on a steady and healthy increase.

The total internal revenue collections for the fiscal year which ended June 30, 1881, was over \$135,000,000. Of this amount over \$87,500,000 were collected in the eight States which, wholly or in part, lie in this basin.

No toll has ever been paid on the Des Moines and Rock Island rapids in the Upper Mississippi, and Congress has appropriated \$5,955,350 to improve them against \$2,600,000 expended here.

In order to improve the navigation to Lake Superior, the government in 1852 gave the State of Michigan 750,000 acres of land and

the right of way to build a canal around the falls of the Saint Mary's River, and has appropriated \$2,616,000 since for its enlargement and the improvement of the river.

As the work now stands, it is inadequate to serve the interests of the Ohio River, and it will become more and more so each year until the additional works suggested by me are completed.

Delays occur whenever a great number of vessels arrive at the locks at the same time, notwithstanding the fact that lockage is then carried on day and night. The greatest of these occur on a so-called coal rise; that is, when the river rises sufficiently to liberate large numbers of coal tows at Pittsburgh and below. Since the government has had charge of the canal these coal rises have averaged five in number per annum. The averaged time required to lock everything through on such occasions is about six days. The greatest number of lockages made with the new locks in twenty-four hours has been twenty-one. At each lockage of the new locks from two to three coal boats or six coal barges are passed through. One coal boat or four coal barges are locked through the remodeled old locks at lockage. Aside from the delay of the coal fleets, from eighteen to twenty-four passenger steamers are delayed on such occasions. The average delay to each one has been fourteen and a half hours. The average cost of each day's delay to them is \$200 per steamer.<sup>1</sup>

In February, 1883, the Ohio Valley was visited by the highest flood ever known, exceeding at Cincinnati, the historic flood of 1832 by two feet four inches. It was supposed that this was the

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1. Executive Document, No. 129, U. S. Senate, 47th Congress, 1st Session, pp. 1-24.

climax for at least one generation, but in the same month of 1884 the river again overflowed its banks, and at Cincinnati it exceeded the flood of 1833 by over four and one-half feet.<sup>1</sup>

In the year 1886, it was reported to the House of Representatives of the United States, that the engineers in charge of the Louisville and Portland Canal had objected to the right of the city of Louisville to drain its sewers into the canal. Consequently the Secretary of War was directed to report to Congress whether, "in his judgment, said right of drainage should be conceded to the city of Louisville, and, if not, the reason therefor, together with such information upon the subject as might to him seem proper in the premises."

The Secretary reported that the city of Louisville based its right to drainage in the canal on a joint resolution passed by the legislature of Kentucky in 1872, in which the president and directors of the Louisville and Portland Canal were directed to surrender the said canal and all the property connected therewith to the Government of the United States, upon certain terms and conditions, one of

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1. Report of the Chief of Engineers, 1884, p. 1687.

which was "that the city of Louisville shall at all times have the right of drainage into said canal: Provided, That the connections between the drains and the canal shall be made upon the plan to keep out mud and garbage."

The Secretary of War went on to say that the Congressional act of May 11, 1874, had directed the Secretary of War at that time "to take possession of the said Louisville and Portland Canal, and all the property, etc., as provided for by the act of the general assembly of the State of Kentucky, approved February 22, 1844.....conceding jurisdiction over said canal to the United States....." In this act the joint resolution of the legislature of Kentucky of March 28, 1872 is not mentioned, and in its report upon this measure the Committee on Finance of the United States, on the 14th of April, 1874, speaks of the conditions contained in this resolution of the Kentucky legislature as "conditions sought to be imposed for the local advantage of the city of Louisville."

The Secretary of War then said that "even assuming that the joint resolution of the State of Kentucky of March 28, 1872, which provides that the

city of Louisville may drain into the canal, is in force and binding on the United States, it certainly does not confer upon that city the right to pollute and to render foul the waters of the canal."

Since the city rested its claim to drain into the canal upon the joint resolution of 1872 alone, and since the United States accepted the canal under other State legislation, and not under that resolution, the decision was made, that the resolution of 1872 could have no force in binding the United States.<sup>1</sup>

After the year 1880, the improvements at the falls of the Ohio included the enlargement of the basin immediately above the locks of the Louisville and Portland Canal, the enlargement of the head of the canal, and straightening, deepening, and controlling the water flow in the Indiana Chute Channel. The former was completed in 1893.

Previous to 1883, the approach to the canal at its upper end, above the Louisville Bridge Co.'s bridge at Fourteenth Street, was so narrow as to constitute a source of much expensive delay to the

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1. Executive Document, No. 51, House of Representatives, 49th Congress, 2nd Session, pp. 1-12.



large quantity of traffic which came down the river on ordinary rises. The canal proper from Ninth to Fourteenth Streets was only 100 feet wide and curved between the two points, so that progress was slow and accidents frequent and unavoidable. The greater part of the dike marking the north side of the approach to the canal was submerged when the river reached a state of 8.4 feet, upper canal gauge, and at stages of 9 feet or more a strong current set out from the shore, thus carrying many vessels against the dike and, at high enough stages, over it onto the rock ledges. This approach was 1,800 feet long and varied in width from 400 feet at the upper end to 100 feet opposite Ninth Street. Its area was wholly insufficient for the required breaking and rearrangement of tows preparatory to entering or leaving the canal.

The original project for the enlargement of the head of the canal was adopted in 1883, and proposed the enlargement of the canal, beginning at a point a short distance below the railroad bridge at Fourteenth Street and extending eastwardly to the cross dam, so as to not only straighten and widen the canal proper, but also provide ample space for the

rearrangement of tows about to enter or leave the canal. This was slightly modified in 1885, so far as the location of the new north wall was concerned. A revision of the project was made by a board of engineer officers January 28, 1890, and approved by the Chief of Engineers January 31, 1890. This revision modified the area formerly proposed to be excavated and determined the number and kind of structures, etc., to be erected. As approved, it provided for enlarging the canal on its northerly side from a point 725 feet below the railroad bridge at Fourteenth Street, where the width of the canal was abruptly increased from 90 to 210 feet. This latter width is then gradually increased through a distance of nearly 2,800 feet to 325 feet at the head of the canal proper, at which point the enlargement is expended into a capacious basin or harbor 1,200 feet wide, and practically parallel to the Kentucky shore. The structures proposed were a new retaining wall on the north side of the canal, a movable dam about 800 feet long, a fixed dam extending from the movable dam at the westerly end of the basin to the south abutment of the movable dam in the Middle Chute opening of the cross dam, the excavation of

rock within designated limits to the same level as the canal bottom, the construction of certain walls and slope revetment on the south side of the canal, and the removal of the old structures within the limits of the proposed enlargement. On March 1, 1899, a further modification of some of the details of the project was considered by a board of engineers, and their recommendations approved by the Chief of Engineers April 8, 1899. These later modifications, together with the work outlined in the report approved January 31, 1890, constituted the existing project toward the completion of which operations were directed. The totals of estimates under the original project and the several revisions are as follows:

Project of 1883, p. 1539, Annual Report of the Chief of Engineers for 1883.....	\$1,335,363.00
Revision approved January 31, 1890, p. 2217, Annual Report of the Chief of Engineers, 1890.....	710,230.40
Modification approved April 8, 1899, p. 2562, Annual Report of the Chief of Engineers, 1899....	300,391.92
A revision of the latter estimate was made November 13, 1900, approved by the Chief of Engineers November 17, 1900, and amounted to.	398,359.12

The Indiana Chute is the main channel of the river by which commerce passes over the falls when the stage of water is such as to permit navigation via that route. Originally it was very crooked, with swift currents and whirls, filled with dangerous rocky points projecting from the sides and bottom, and it could be navigated only at stages of eleven feet or more, upper canal gauge. Even at such stages, the services of special skilled pilots of long experience and having intimate knowledge of the channel conditions were essential for reasonably safe passage through it.

Prior to January 31, 1890, there was no specific comprehensive project for the systematic improvement of the Indiana Chute Channel, although much work, consisting of the removal of some of the more dangerous rock ledges, had been done under estimates and allotments from appropriations for improving the Ohio River. On the date mentioned above, the project submitted by a board of Engineer officers for the radical improvement of this chute was approved by the Chief of Engineers. This project had for its object the widening and deepening of the channel by rock excavation, and the control of water flow by

means of dikes, etc., so as to make the channel available for descending navigation drawing six and one-half feet at stages of eight feet, upper canal gauge.

A consolidation of the projects for the enlargement at the head of the canal and the improvement of the Indiana Chute was authorized by the Chief of Engineers June 28, 1897, and after that date funds were appropriated for work at both localities under one title of appropriation.

Work under the project of 1890 having been completed, a board of Engineer officers was assembled to determine what further work was essential to provide the requisite depth necessary to facilitate the passage of traffic through the channel. This report was submitted December 16, 1901. The items of additional work found to be necessary to produce the desired result and the estimated cost thereof was as follows:

Submerged Dam at Whirlpool Point (large stone), 2,500 yards at \$3...	\$ 7,500
Raising movable dam north of canal wall.....	2,500
Removing old dam and building movable dam, 1,000 feet at \$75.....	75,000

Longitudinal contracting dikes (concrete), 22,300 cubic yards, at \$12.....	\$267,600
Submerged dams below bridge (concrete), 3,000 cubic yards at \$20.....	60,000
Rock excavation, 3,200 cubic yards at \$3.50.....	11,200
Contingencies, 10 per cent....	<u>42,380</u>
Total.....	\$466,180*

For this latter work the board prescribed the order in which it should be done, and stated that it was possible that a part of the work might become unnecessary if certain results were produced by the submerged dam at Whirlpool Point, and in that event about \$125,000 would probably be saved from the estimated cost.

Subsequently, in House Document No. 492, Sixtieth Congress, first session, the Ohio River board recommended the omission of all of the foregoing items, except that for removing the old dam and building a movable dam at the head of the falls, and in lieu of such omitted items proposed the following to increase the facilities for passing the falls:

- (1) To widen the narrow portion of the canal to 170 feet, thus permitting the passage of a down-bound tow of loaded coal boats and an

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\* Report of the Chief of Engineers, 1912, p. 931.

up-bound tow of empty coal boats, each tow three abreast; (2) to construct a new single-lift concrete lock south of and by the side of the present lock, available dimensions of the chamber to be 85 feet by 600 feet, thus permitting the passage at one lockage of nine coal boats or twelve coal barges; (3) to create a pool above the falls, with elevation of pool surface at 412.004 (nine feet on upper canal gauge), by the replacing of the wooden dam between Middle and Indiana chutes by a Boule Dam, with crest at 412.004, which work is already provided for and under way, and by the construction of sections of dam recommended by the district engineer officer in the project approved by the Chief of Engineers on December 28, 1903, with crests at 412.004 instead of 411.004, recommended therein, this height of crest being desirable for either a six-foot or a nine-foot slack-water navigation, or even if the river is not further improved by the slack-water method; (4) to remove the rock necessary to complete the widening of the basin at the head of the canal contemplated by the present approved project; (5) to reconstruct the three sections of Boule Dam just north of the head of the canal with crest at 415.704, instead of crest at 412.504, as provided for in present project, thus eliminating the cross current across the head of the canal, which current now makes it very difficult for tows to enter the canal at stages between 8 and 12.7 feet. It is proposed to leave the crest of the present fixed concrete dam at 411.404 to serve as a fixed weir for low-water discharge of the river.<sup>1</sup>

All elevations are in feet above mean tide at Sandy Hook, New Jersey. The estimated cost of the work proposed by this board was as follows:

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1. Report of the Chief of Engineers, 1912, p. 932.

Widening canal to 170 feet, etc....	\$ 673,000
New locks and appurtenances.....	773,000
New Dams.....	240,000
Reconstructing Boule Dam at head of canal.....	31,000
Removal of rock in basin.....	43,000
Total.....	<u>\$1,760,000</u>

The river and harbor act of June 25, 1910, adopted a canalization project for the entire river in accordance with the report printed in House Document No. 492, Sixtieth Congress, first session, "or such modifications thereof as, in the discretion of the Secretary of War, may be advisable." This project included the canal widening and new lock (items one and two of above estimate).

In order that the Lock and Dam at Louisville (No. 41), might be of the same dimensions as the other locks and dams on the Ohio River, and in order that future navigation might be adequately provided for, the Secretary of War on March 24, 1911, exercised the authority granted him by the act of June 25, 1910, and approved a modification of the existing project by increasing the canal prism from 170 feet to 200 feet, and by increasing the width of the new lock from 85 feet to 110 feet, at an increase in cost of \$431,500.

As approved in 1912, the existing project



proposed: (1) to widen the narrow portion of the canal to 200 feet; (2) construct a new single-lift concrete lock south of and by the side of the present lock, available dimensions to be 110 feet by 600 feet; (3) remove certain rock from basin at head of canal; and (4) create a pool above the falls, with elevation of pool surface at 412.004 (nine feet on upper canal gauge), by the reconstruction of old sections and building new sections of dam where none previously existed.

The estimate for this work was itemized as follows:

Widening the canal to 200 feet etc....	\$ 936,031
New lock and appurtenances.....	1,710,325
New Dams and reconstructing Boule	
Dam at head of canal.....	271,000
Removal of rocks in basin.....	<u>43,000</u>
Total.....	\$2,960,356

The act of March 2, 1907 provided for the completion of the third and fourth items and the work has been done, thus leaving only the first and second items as the remainder of the existing project to be completed, for which the estimate amounts to \$2,646,356.<sup>1</sup>

The results derived from the expenditures up to 1912 were of marked advantage to traffic and commerce,

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1. Report of the Chief of Engineers, 1912, p. 933.

and greatly facilitated their movement. The enlargement of the basin immediately above the locks, completed in 1893, increased the width of the canal at that locality from 90 feet to 215 feet throughout a distance of 800 feet. The enlargement at the head of the canal, completed during the fiscal year 1910, begins at a point 725 feet below the Fourteenth Street railroad bridge and extends eastwardly to a short distance above the dam, and affords a capacious basin varying in width from 210 feet to 1,200 feet.

In the Indiana Chute above the Fourteenth street bridge the channel width was increased from 200 to 400 feet, and all rock within these limits excavated to grades specified in the project. At Wave Rock and Willow Point, all excavations and the dikes were completed. The depth of water over Wave Rock and Willow Point approximated very closely the depth anticipated, i.e., 8 feet when there are 8 feet on the upper gauge. The new dam in 1912 was of such height as to afford a minimum depth of nine feet upstream to Madison, Indiana, and a minimum depth of six feet on the lower mitre sill at Lock No. 1, Kentucky River.

The following table shows the amount of traffic going through the Louisville and Portland Canal from 1880 to 1913:<sup>1</sup>

Year	Passenger boats	Tow boats	Coal boats and barges	Miscellaneous	Total
1880	862	235	2,205	416	3,718
1881	1,088	407	2,559	142	4,196
1882	617	610	2,545	192	3,964
1883	1,069	769	2,784	329	4,954
1884	754	645	2,663	284	4,346
1885	742	772	3,086	386	4,986
1886	774	856	3,016	414	5,057
1887	700	847	2,904	318	4,769
1888	850	937	3,293	391	5,471
1889	1,076	767	4,632	363	6,838
1890	504	629	2,395	412	3,940
1891	590	836	3,197	254	4,877
1892	605	1,008	4,065	352	6,029
1893	573	786	1,926	499	3,784
1894	744	871	3,635	603	5,853
1895	622	536	2,124	673	3,955
1896	650	758	2,930	631	4,969
1897	675	732	2,658	641	4,706
1898	587	879	2,851	726	5,043
1899	562	854	2,799	873	5,088
1900	694	988	3,256	785	5,723
1901	613	948	3,287	733	5,581
1902	600	788	2,463	891	4,742
1903	507	863	3,052	657	5,079
1904	519	900	3,435	646	5,500
1905	410	894	2,673	750	4,727
1906	501	1,055	3,599	666	5,821
1907	415	880	3,446	601	5,342
1908	338	1,048	3,406	377	5,069
1909	258	1,014	2,809	571	4,652
1910	358	948	2,334	689	4,329
1911	565	1,244	2,890	632	5,331
1912	405	1,037	2,789	603	4,834

1. Data obtained from Engineers Reports for corresponding years.

The contract for the widening of the Louisville and Portland Canal to 200 feet, as authorized in 1912, was completed May 31, 1917. The work of constructing a new lock and widening the canal on the south side near the head of the lock was continued by contract throughout the year of 1917, and about 86.8 per cent of this contract was completed at the close of the fiscal year.<sup>1</sup>

Under the discretionary authority given to the Secretary of War in the act of 1910, a further modification was made in July, 1925, when it was planned to omit Lock and Dam No. 40, through the rebuilding of the Dam at Louisville, (No. 41), as a power-navigation dam, and adjusting the lift to provide the required depth in the river up to Dam No. 39.

Consequently, work was begun on the new dam in September, 1925,<sup>2</sup> and completed in 1927. As it stands to-day, it is the longest and highest navigable dam on the Ohio River. With a crest elevation of 420.0 feet it provides slackwater with a project depth of nine feet between Louisville and Dam No. 39

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1. Annual Report of the Chief of Engineers, 1917, p.1253.  
2. Ibid., 1926, p. 1158.

at Markland Indiana, a distance of about seventy-five miles. The dam which it replaced had a crest elevation of 412.0 feet. This increase in pool level rendered unnecessary the construction of proposed Dam No. 40 near Madison, Indiana. The cost of constructing the dam was \$2,550,000.

The present Louisville and Portland Canal, which carries navigation around the dam except during high water stages, has a length of two and one-seventh miles including the locks and lower entrance. The entrance width to the canal is 400 feet, which reduces to 200 feet in the canal proper. Near the head of the locks it again widens to about 600 feet to include a 100 foot wide by 235 foot long dry dock, coaling harbor, etc. The minimum depth is seventeen feet. During winter months when ice conditions make it necessary for boats to seek refuge, the canal becomes an excellent ice harbor.

The two navigation locks at the lower end of the canal are the highest lift locks on the Ohio River. Both locks have a normal lift of thirty-seven feet and a maximum lift of forty-two feet. The main lock was completed in 1921 at a cost of about \$3,050,000 which

includes widening of the canal. This lock is 110 feet by 600 feet, standard Ohio River size. The auxiliary lock is fifty-six feet by 360 feet and was completed in 1930 at a cost of approximately \$950,000.

Traffic through Lock and Dam No. 41, at Louisville, amounted to 1,300,000 tons in 1932 and has shown a steady increase since. In 1937 the amount of traffic was 2,375,000 tons.<sup>1</sup>

The rebuilding of the dam at Louisville, and the consequent raising of the level of the water in the upper river, caused the government a great deal of trouble in the form of lawsuits by land owners on the river who claimed property damage resulting from the rising water. Large sums of money have been paid out by the government, and several cases are still in the process of litigation.

The history of the Louisville and Portland Canal would not be complete without some mention being made of the hydro-electric plant, work on which was begun in May, 1926. The plant was built under license of the Federal Power Commission and is owned

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1. Navigation Improvements at Louisville, Kentucky,  
A pamphlet prepared by the Corps of Engineers,  
U.S. Army, 1938, p. 4.

by the Louisville Gas and Electric Company. In addition to the usual annual charges made by the United States for the administration of "The Federal Water Power Act" an annual charge of \$95,000 is made to recompense the United States for "the use of the Government dam and other structures and the lands adjoining and pertaining thereto owned by the United States."

The water supply for the plan comes from a 91,000 square mile drainage area extending well into New York, Pennsylvania, Virginia, and Maryland. The natural flow of the river varies from a maximum of about 1,100,000 second feet to about 5,000 second feet or less in summer drought. The dam, together with the natural fall of some twenty-six feet in the river bed at the falls, provides a maximum operating head of about thirty-seven feet. At present eight 13,500 h.p. units are installed and provision is made for two additional units. Because of their ability to operate under heads varying from the maximum of thirtyseven feet down to about eight feet, five blade type, axial-flow runners, designed to produce 13,500 h.p. at thirty-seven foot net effective head at a speed of 100 revolutions per minute, were

selected.

The hydro-plant is a strictly run-of-the-river plant and no drawdown of the navigation pool of Dam No. 41 is permitted. Consequently low flows result in a curtailment of power output. Also due to high water stages and the resulting reduction in operating head to below eight feet, the plant has been unable to operate for an average of about thirty-five days each year.

Since the hydro-electric plant was put into operation the latter part of 1927, it has produced an average of 290,000,000 K.W.H. per year. The average annual output during 1931 to 1935 inclusive was about 338,000,000 K.W.H. The maximum output in any single year was 392,957,000 K.W.H. in 1931.

The cost of constructing the power plant, including all equipment, the transmission line to the waterside steam station of the Louisville Gas and Electric Company, and the substation at the plant, was about \$8,100,000. This represents a cost of \$75.00 per h.p., or about \$100.00 per installed Kw. The comparatively low cost per kilowatt of installed capacity made the building of the plant, the output of which is entirely secondary power, financially



practicable.<sup>1</sup>

The damaging flood of January 1937 which took such an enormous property toll in and around the city of Louisville, oddly enough caused very little injury to the canal proper. Although the peak of the flood waters stood well above the walls of the canal, very little mud or silt was deposited by the receding waters. The only damage done to the canal property was the destruction of a few old buildings which had already outlived their usefulness.<sup>2</sup>

This study of the origins and history of the Louisville and Portland Canal, contains several points of importance to the student of American history. It shows the intense interest of the people of the West in internal improvements. The cost was three times the estimate, which is typical of many of the governmental enterprises of the period. The people were very anxious to get men to invest their money in the undertaking, but when dividends which the legislature of Kentucky had authorized became

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1. Navigation Improvements at Louisville, Kentucky, op. cit., pp. 9-10.
  2. This information was obtained from conferences with employees of the United States District Engineers Office at Louisville.

a reality, the demand became urgent that the National government take over the canal, and lower the tolls or grant free passage. The votes in the Senate of Kentucky, and in the branches of the United States Congress indicate a sectional interest, which is also typical throughout our history.<sup>1</sup>

Governor Desha wished the state of Kentucky to construct the canal and to use the profits to build turnpikes etc., and to use the profits of all internal improvements, to maintain these works and to further the development of liberal institutions. The shattering of his dream must have caused him much distress. The United States, by taking charge of the canal, extended its power one step further over the waterways of the nation. It was an institution out of which the government made a huge profit as a stockholder, but as sole owner made less than nothing.

A likeable object of comparison is furnished by the Erie Canal, which was completed in 1825, just five years previous to the opening of the Louisville

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1. Walker, H. P., Indiana Magazine of History, V. 28.

and Portland project. There are several important differences between the two, and a few similarities which might be considered here. Both canals were constructed with the idea of improving and increasing the trade of a growing young nation, not only between Eastern and Western United States, but also with other nations of the world, and both successfully fulfilled their purpose.

The same difficulties which beset the incorporators of the Louisville and Portland Canal Company also harassed De Witt Clinton and his colleagues who foresaw the benefits of bringing ships from London and other ports of Europe through the Hudson River to Lake Erie by means of a canal. Both experienced obstacles in enlisting financial assistance, and the construction and improvement of each was hindered by a major war.

Each canal had to go through a series of enlargements in order to keep pace with the advances made in the types of commercial vessels, and each, at one time or another proved to be profitable business ventures.

The cost of the Erie Canal exceeded the estimate by over \$2,000,000, and the same fact in a

different amount was true of the Louisville and Portland Canal. Both, however, compensated for their extra expense by the great value they rendered to the economic progress of the United States.

One great difference which must seem obvious in a comparison of these two great works is the fact that the Erie Canal was begun and completed as a public enterprise by the State of New York, while the Louisville and Portland Canal, as we have seen, was started under private initiative and wound up under the control of the United States Government.

Another difference between the two projects which immediately comes to the mind of one who has studied the respective development of each, is the fact that while the Erie Canal was used more or less as a "political football" by the various public office-holders of New York, no trace of any such manoeuvring was found by the writer concerning the construction and management of the canal which is the subject of this paper. Furthermore, it seems appropriate here to commend those private stockholders who having only the interest of five shares of stock in the

company, so ably and honorably carried on its burdensome affairs as trustees of a negligent government.

The leaders of both projects found it expedient to go to the National Government for monetary aid. In the case of one, it was refused due to the burdens of the War of 1812. In the case of the other, financial assistance was given, due perhaps to the fact that the request came at a time when the Treasury of the United States was showing a surplus, and when those in control of the government realized the benefits to be obtained in later years from the early construction of internal improvements.



WAR DEPARTMENT

U. S. ENGINEER OFFICE

LOUISVILLE DISTRICT

Upstream view, showing Lock and Dam No. 41, Ohio River, Louisville, Kentucky.

File 32

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